DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY SIGNAL CENTER AND FORT GORDON
Fort Gordon, Georgia 30905-5735

USASC&FG Regulation **30 July 2001**
No. 210-21

Installations
RANGE REGULATION

Summary. This regulation provides procedures for the safe use of the ranges and training areas on Fort Gordon.

Applicability. This regulation applies to any person, military, or civilian who uses the training areas and ranges on Fort Gordon. All units utilizing any range/training area facility must possess, read, understand, and comply with this regulation and familiarize themselves with Army Regulation (AR) 385-63.

Supplementation. Supplementation of this regulation is prohibited unless specifically approved by Commander, United States Army Signal Center and Fort Gordon (USASC&FG), ATTN: ATZH-DP.

Suggested improvements. The proponent of this regulation is the Directorate of Plans, Training, and Mobilization (DPTM). Users are invited to send comments and suggested improvements on Department of the Army (DA) Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, USASC&FG, ATTN: ATZH-DP, Fort Gordon, Georgia 30905-5735 and/or submit DA Form 1045 (Army Ideas for Excellence Program (AIEP) Proposal) to the installation AIEP coordinator.

Administrative note. The words "he" or "his" as used in this publication are intended to include both the masculine and feminine genders.

Availability. This regulation is only available at the USASC&FG publications website at: http://www.gordon.army.mil/doim/imc/Forms.htm.

***This regulation supersedes USASC&FG Regulation 210-21, 2 May 1994.**

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Section I. General

1. Purpose. To establish procedures to ensure personnel safety during training and special activities conducted on the Fort Gordon Military Reservation. It is designed to facilitate combat realism in training, to maximize the availability of safe training areas and facilities, to minimize safety hazards, and to eliminate unsafe practices.

2. Scope. This regulation:

a. Establishes standard terminology pertaining to range and training area facility operations.

b. Prescribes procedures for the safe conduct of training on ranges and in training area(s) facilities.

c. Prescribes procedures for the scheduling of ranges and training areas and/or facilities.

d. Provides a general description of ranges and training areas and facilities available for unit training.

3. References. Required and related publications and prescribed and referenced forms are listed in appendix A.

4. Explanation of abbreviations and terms. Abbreviations and special terms used in this regulation are explained in the glossary.

Section II. Responsibilities

5. Directorate of Plans, Training, and Mobilization (DPTM). The DPTM is responsible for:

a. Overall supervision of installation ranges and training areas.

b. Establishing policies and procedures governing the use of installation ranges and training areas.

c. Ensuring adequate staffing of Installation Range Control Branch.

d. Ensuring compliance with Environmental and Natural Resources Federal, State, and local regulatory requirements. Coordinating with Environment and Natural Resources Management Office (ENRMO), Directorate of Public Works (DPW) on all compliance issues.

6. Range Control. The Chief, Range Control has overall responsibility for the safe conduct of training on the installation's ranges and training areas. The Chief, Range Control will:

a. Ensure that specific standard operating procedures are established, published, disseminated, and used by occupying units for each range and firing point designated for the conduct of live-fire training.

b. Ensure Range Control operation center conducts Weapons Range and Training Area block of instructions, for certification of unit personnel. Operations will brief each occupying unit's designated officer in charge (OIC)(E-7 and above) and range safety officer (RSO)(E-6 and above) prior to the unit's use of the range or training area. The training will consist, but is not limited to: Range operations, environmental concerns, and Post safety requirements.

c. Verify that each individual unit has its own emergency medical support available. This support will be as a minimum, one soldier per active range who is certified as a "combat lifesaver". Each soldier acting as a "combat lifesaver" will have their own medical aid bag, vehicle, litter, and radio communications. All medical personnel will report to Range Control, along with the OIC and RSO, prior to occupying the range.

d. Coordinate and obtain use of Restricted Area, R3004, from the Federal Aviation Administration (FAA) (Macon and Atlanta Center, Georgia (GA)) in accordance with (IAW) AR 95-2 current Joint Use Letter of Agreement.

e. Ensure the current range safety fans are prepared IAW AR 385-63 and maintained in Range Control for each range used for live-fire training.

f. Ensure that proper signs are posted for all impact areas and dud areas IAW AR 385-63.

g. Coordinate and function as the team leader of the installation investigation team for investigating malfunctions and accidents that occur on the ranges and training areas.

h. Arrange for the maintenance, operation, coordination, and safe use of training areas and ranges on this installation. Perform operator maintenance beyond the capability of the occupying unit. Review, forward, and continue follow-up action on all work orders.

i. Designate danger areas, and where/when roadblocks need to be manned by units using ranges and training areas.

j. Coordinate placement and manning of roadblocks with Directorate of Public Safety (DPS).

k. Ensure that all airborne operations are staffed through Plans, Operations, and Training Division, to include providing flight following procedures.

l. Coordinate with ENRMO, DPW concerning compliance with Federal, State, and local regulatory requirements. Immediately report all failures to comply with regulatory requirements by Range and Training Area users to ENRMO, DPW.

m. Report all accidents caused by firing of any weapon system(s) to the DPS representative immediately.

n. Provide access to ranges to accomplish environmental missions.

7. Directorate of Public Works (DPW). The DPW is responsible for:

a. Direct support and maintenance of all weapons ranges.

b. Grading and maintenance of all roads within the training areas complex.

c. Providing range and road right-of-way, and vegetation maintenance support, within the constraints of base support contract requirements, funds and equipment availability.

d. Maintenance and/or installation of electric power to ranges, installation of electric power sources will be approved by DPW.

e. Maintenance and/or installation of target devices, M30/M31A1 counter devices, and panel boards.

f. Providing for range and forest fire suppression and for seasonal controlled burns or prescription burning, as needed.

g. Maintaining Preston Drop Zone (DZ), to include cutting of trees, brushes, and grass and harvesting.

h. Turning off the electrical power lines that run parallel to the eastern edge of Preston DZ prior to airborne operations. Reestablish the power upon completion of the airborne operation.

i. Repair electrical target devices, M30/M31A1 counter devices, Machine Arcade Combat Simulator (MACS); target mechanism, and panel boards.

j. Provide environmental and natural resources management support, recommendations, and approvals concerning compliance, impact, mitigation, report and documentation under statutory requirements of Federal, State, and local regulation.

8. Public Affairs Office (PAO). The PAO will:

a. Inform local community of pending airborne operations, artillery firing, and air-to-ground operations prior to the commencement of exercise.

b. Provide coverage and/or coordinate support to affected units or commands involved in the operation, to include media relations.

9. Directorate of Public Safety/Military Police Activity (DPS/MPA). The DPS will:

a. Provide roadblocks and traffic control points at predetermined locations and time prior to airborne assault operations and artillery live fire exercises.

b. Provide crowd control at all spectator events.

c. Investigate violations of Uniform Code of Military Justice (UCMJ) and complete Serious Incident Reports (SIR).

d. Providing technical assistance and advice to the Chief, Range Control to ensure that range safety procedures are established and published IAW AR 385-63.

e. Providing staff assistance to Range Control upon request by the Chief, Range Control.

10. Directorate of Health Services (DHS). The DHS is responsible for providing the following:

a. Conducting periodic Combat Lifesaver training for qualified units assigned to Fort Gordon.

b. Coordinating with DPTM, Plans, Operations, and Training Division for training dates and times.

11. Reserve Components Support Division (RCSD), DPTM. The RCSD is responsible for:

a. Coordinating logistical support for the Army National Guard (ARNG), U.S. Army Reserve (USAR), Reserve Officers' Training Corps (ROTC), civilian organizations, and active duty units not located at Fort Gordon.

b. Coordinating and scheduling ranges and training areas for all units mentioned in paragraph 11a, above.

12. Unit occupying site. The unit occupying site is responsible for:

a. Compliance with range and training area operating procedures specified in this regulation and AR 385-63.

b. Appointing a range OIC who will ensure that their unit complies with the general operating and safety procedures and specific procedures established for the range being used (see paragraph 15, this regulation). Certification is an annual requirement.

c. Appointing a separate RSO for each range used. The RSO will ensure compliance with specific safety procedures established for their range. The RSO will not be assigned any other duties. Certification is an annual requirement.

d. Ensuring that the Range OIC and RSO obtain a range safety briefing prior to signing for range.

e. Providing DZ safety officer for airborne and/or air assault operations.

f. Coordinating for Combat Control Team for utilization of DZ.

g. Furnishing necessary details required for range operations, (i.e., water, toilet tissue*, etc.)*.

h. Ensuring that all weapons are rodded, on and off the range, prior to removal from the range.

i. Ensuring that a complete police call of the range is conducted. When night fire is conducted, occupying unit will turn in all equipment to Range Control personnel, and at 0730 the following day, OIC and a detail will be present to clear the range.

j. Inspecting all weapons before firing to ensure they are functioning properly, lubricated as required, free of dirt and other obstruction, moisture, and carbon buildup in the chamber.

k. Signing for ranges and training areas prior to unit occupation. Units occupying training areas must telephonically verify with Range Control, training areas to be occupied not later than (NLT) 1 working day prior to unit occupation. All ranges and training areas will be signed for prior to occupation. Ranges and training areas will be signed for by a senior noncommissioned officer (NCO) (E-7 or above).

l. Ensuring units scheduled for a range or training area notifies Range Control 24 hours prior to any cancellation.

m. Ensuring all ranges and training areas are cleared by Range Control prior to departure. Units departing training areas when Range Control is closed must ensure areas are properly policed. Range Control will inspect areas on the following workday. Unit commanders will be notified and required to correct any deficiencies noted.

13. Battalion commanders. Battalion commanders will:

a. Ensure persons in their command who are detailed to perform Range OIC/RSO, training areas OIC/noncommissioned officer in charge (NCOIC), have read and understand this regulation and AR 385-63 prior to certification and testing at Range Control.

b. Ensure persons in their command who are detailed to perform Range OIC and RSO are trained and technically proficient on all weapon systems to be employed.

c. Prior to individual Range and Training Area certification, submit a memorandum to Range Control, signed by the Battalion Commander, verifying by name and social security number, that individual has read and understood regulations USASC&FG Regulation 210-21 and AR 385-63, and is technically proficient on the weapon systems to be employed.

d. Ensure ranges and training areas are scheduled 45 days in advance and according to unit mission. Environmental Checklist will be submitted 45 days prior to occupying a training area. Do not schedule ranges and training areas that will not be used. Immediately cancel all ranges and training areas that will not be needed.

e. Ensure all ranges and training areas are signed for prior to unit occupation.

14. Officer in charge. The OIC will:

a. Possess a thorough knowledge of this regulation and weapon system(s) to be employed.

b. Sign for range prior to occupying the range or training area. The RSO and combat lifesaver (medic) will accompany the OIC when in-processing at Range Control. The OIC will be an E-7 or above.

c. Report any unsatisfactory or unsafe conditions to Range Control and ensure that any unsafe acts be corrected before firing status is requested.

d. Comply with the provisions of USASC&FG Regulation 210-21, AR 385-63, and other appropriate regulations and directives.

e. Ensure safety compliance on the range.

f. Designate necessary RSO(s) and safety NCOs (corporal (CPL) and above) to supervise and implement required safety procedures. There must be at least one RSO per active range. The RSO will not be assigned any other duties.

g. Display range streamers during firing. During hours of darkness, ensure the scarlet streamers are supplemented with blinking red lights.

h. Provide security and ensure safe use of ammunition. All unused ammunition (high explosive ball or blank) fuses, explosives, and pyrotechnics will be returned to the ammunition supply point (ASP). Under no circumstances are ammunitions and explosives to be stored unguarded or unattended outside an approved ammunition storage area. All misfires and/or dud rounds, except small arms, will immediately be reported to Range Control.

i. Supervise the handling of all ammunition after delivery to the range area to include ensuring live ammunition and brass are kept separate, and ammunition is issued only to firers on the firing line or ready line.

j. Account for all unexpended ammunition and explosives before leaving the range and ensure that no unauthorized personnel remove ammunition or brass from the range.

k. Give detailed briefing and instructions to be followed during the conduct of the exercise. Instruct soldiers and other personnel of their role in the exercise, including time events, safety limits, and other factors necessary for the safety of participants. Review safety measures whenever any change is made in the nature of the exercise. Brief all personnel on actions to be taken in the event of an injury. Also brief personnel concerning troop limits, dud areas, and danger of picking up or kicking duds.

l. Explain the characteristics of the type of ammunition to be used. This explanation is accomplished in such language as to leave no doubt in the minds of the firers about the type, potency, bursting radius, or other effect of the ammunitions. The soldiers are instructed to check the issued material to make certain that it is the type covered in the explanation.

m. All personnel will wear kevlar helmets while on ranges employing explosive and fragmentation type munitions, ranges requiring movement while under firing, and ranges employing overhead fire. In addition, all personnel in the target pits will wear kevlar helmets.

n. Visually reconnoiter down range before firing to determine if personnel are within the observed limits of fire.

o. Ensure that all required roadblocks, barriers, and guards are in position before firing.

p. Report accidents, injuries, malfunctions, missing persons, and fires as prescribed in this regulation.

q. Inspect and rod all weapons before and after firing to ensure weapons are clear.

r. Open and close the range IAW guidance given by Range Control and procedures outlined in the regulation.

s. Ensure all weapons not in use, are field stacked behind the bleachers, and are on SAFE, magazines removed, bolt placed to the rear, and the port cover open with a guard present.

t. Maintain a high state of police on the range at all times.

u. Ensure all persons in the noise hazard area of the range use hearing protection when firing is being conducted and that hearing protection devices are available for issue to all visitors who come to the range.

v . Ensure all left-hand firers use brass deflectors.

w. Maintain communication with Range Control at all times (see section VII, this regulation).

x. Ensure checklist items 1 thru 17 are completed prior to requesting opening time from Range Control.

15. Range Safety Officer. The RSO will:

a. Be an E-6 (staff sergeant (SSG)) or above.

b. Be required to be on the firing line at all times while range is in hot status.

c. Ensure there are enough safeties (1:5 day , 1:1 night fire).

d. Have no additional duties.

Section III. Common Policies, Procedures, and Safety Requirements

16. Restrictions.

a. Access. Access to Fort Gordon range surface danger zones are carefully controlled and scheduled to provide maximum training utilization and maximize safe conditions. A surface danger zone is that area from the firing point out to and including the impact area.

(1) Access to impact areas is prohibited except when specifically authorized by the Chief, Range Control.

(2) In order to obtain maximum land utilization for both training and recreational activities, the following range access policy is in effect:

(a) Personnel participating in recreational activities are governed by the instructions contained herein, particularly as they pertain to ranges, duds, dud areas, impact areas, fires, roadblocks, fixed installations, and vehicle operations.

(b) USASC&FG Regulation 420-5 governs hunting, fishing, trapping, and horseback riding.

(3) Questions concerning exact limits of restricted, off limits, or surface danger areas will be answered at Range Control.

(4) Road guards and barricades will be temporarily placed on roads and trails in the range area to prevent access to danger areas. Road guards and barricades will not be bypassed without authorization of the Chief, Range Control.

(5) Unauthorized entry into surface danger areas, restricted areas, or off-limit areas is prohibited. Violators will be reported to the DPS for appropriate action.

(6) Training in wildlife food plot, pine seedling, and endangered species habitat areas is PROHIBITED.

(7) Privately owned vehicles (POVs) are not authorized on Ranges or Training Areas.

b. Firing restrictions.

(1) Firing of unfused projectiles on any Fort Gordon range is prohibited.

(2) All fired artillery rounds will be observed. When visibility is less than 1/2 mile, firing will cease unless radar is available to support the firing unit. All forward observers will have the safety fan for the unit they are supporting drawn on an overlay or map to ensure that rounds impact in the proper area.

(3) When personnel occupy any part of Surface Danger Area D as defined in AR 385-63, chapter 11, only lots of ammunition and components approved for overhead fire will be used. Shell improved capabilities munitions (ICM) and all mortar ammunition will not be fired over troops, or roads, which; are open to the public. (See section V, this regulation.)

(4) Shell illumination, white phosphorus, smoke, and all other pyrotechnic or incendiary devices will not be fired without the expressed permission of Range Control. Pyrotechnic or other incendiary devices will not be used where there is a possibility of starting a grass/forest fire or causing damage to equipment or vehicles. Powder burning details will contact Range Control prior to burning to determine if there are restrictions in effect concerning the burning of powder.

(5) Agent chlorobenzalmalonitrile (CS) will not be employed without the approval of Chief, Range Control. Furthermore, Agent CS will be employed only under the supervision of trained nuclear, biological, chemical (NBC) personnel. Unit commanders are encouraged to use good judgment and discretion prior to using CS or smoke devices in situations involving moving vehicles, or under blackout drive operations. Under no circumstances will Agent CS be used in any situation involving aircraft or under circumstances where CS could drift into areas outside installation boundaries. The use of Agent CS must be requested on the Unit Environmental Checklist for approval for use in a training area.

c. Environmental protection.

(1) Commanders at all echelons will ensure compliance with USASC&FG Regulation 420-7, Endangered Species Regulation, and AR 200-1, Environmental Protection and Enhancement.

(2) No live bushes or trees will be cut or damaged. Only foliage from dead trees on the ground will be used for camouflage. Care will be taken to ensure soil is not stripped bare of vegetation.

(3) All wheeled and tracked vehicles will use only established roads, trails, rating points, firebreaks. Tracked vehicles will avoid paved roads and will use tank trails/firebreaks. Vehicles

will not travel on unpaved shoulders or lawns. Use of ditches and shoulders for tank trails is prohibited. Off-road, cross-country shortcuts through trees or, across grass hay, wildlife plots, and planted areas are prohibited. New trails will not be established. Sharp turns by tracked vehicles, which cause damage to hard surfaced areas, is strictly prohibited. The above guidelines also apply to all private and recreational areas.

(4) Each unit or activity is responsible for cleaning up after completion of exercise or operation. Upon completion of training, the unit OIC/NCOIC will initiate a thorough police of the area to ensure that all spade holes, foxholes, sumps, etc. have been filled, and all track mounds leveled. All trash will be collected, removed from the field training areas and deposited in a dumpster.

(5) All ground disturbing activity to include foxholes, trench's, tank ditching, etc., is prohibited unless permission is granted from Range Control. Request for the ground disturbing activities must include grid coordinate and the number to be dug in the environmental forms.

(6) Burning, burying, or abandonment of garbage refuse, and rubbish including field and concertina wire, wooden pallets, and projectile fiber containers and other ammunition residue is prohibited. Commanders will ensure that the above materials are disposed of properly.

(7) Fuel sumps must be placed in such a manner to contain any fuel spillage. This can be done by digging a hole and lining it with plastic or by building up an area on the ground surface with sandbags with the use of a plastic liner. Size and depth of a sump constructed must be able to hold the amount of fuel stored. All fuel sumps, as a minimum, will have a 10-lb fire extinguisher, a shovel, and ax located within 50 feet of the sump.

(8) All fuel tankers will be grounded properly and use of an over flow container is mandatory when dispensing fuel.

(9) When petroleum, oils, and lubricants (POL) spills occur in any size, unit involved will immediately contact Range Control, who will contact ENRMO, DPW, 791-2327 during normal duty hours, after normal duty hours, spills should be reported to Fire Department, 791-2989.

d. Perimeter gates. All requests for access to perimeter gates will be forwarded to Range Control and DPW.

17. Duds. Range Control will be notified immediately. All personnel are warned NOT to pick up or to handle artillery projectiles, airplane flares, artillery simulators, or any ammunition or fragments that may be found. Any movement of a dud may cause it to explode. If duds of any kind are found, their locations will be marked, secured and reported at once to Range Control or the Center Duty Officer (CDO). A stake, branch, or any object which can be seen above the foliage of the immediate area containing the dud will be driven into the ground no closer than 10 yards from the dud. Engineer tape or piece of cloth will be securely fastened to the stake or object marking the location of the dud. The exact location of duds will be determined and reported by map coordinates or graphic representation. The removal of any material, component parts of projectiles, targets or other objects, is prohibited. The CDO will contact Range Control

or if Range Control cannot be contacted, the 723d Ordnance Company (Explosive Ordnance Disposal (EOD)). Fort Gillem, GA (DSN 797-5436) and the Signal Branch Safety Office, 791-3227.

18. Explosive ordnance disposal. Explosive ordnance disposal support will be arranged for by Range Control. Range impact clearance operations will be conducted by the 723d Ordnance Company EOD.

19. Mines and explosive charges. Responsibility of overall supervision for the preparation, placement, and firing charges of a demolition project will be assigned to the OIC who will:

a. Be present to personally supervise the demolition project.

b. Ensure that all connections are inspected before firing.

c. Inspect connections after firing to determine that all charges have been detonated.

d. Supervise the neutralization of all misfires.

e. Be aware of the following restrictions and requirements:

(1) No detonations will take place within 300 meters of any main or secondary road. Road guards will be posted and traffic halted.

(2) Fire fighting materials will be available at all times in blasting areas and will be posted immediately to suppress grass fires.

(3) The detonation OIC/NCOIC will be familiar with the provisions of AR 385-63, chapter 18, prior to reporting to the demolition area.

(4) During training which requires troops to maneuver in the vicinity of demolition pits, an additional individual will be assigned as a safety officer when the OIC/NCOIC responsible for detonating the charges cannot observe the proximity of troops to the demolition pits. During the training, either the safety officer or the OIC/NCOIC of detonation will be in a position to observe both demolition pits and maneuvering troops. The safety officer must be in constant contact with the detonations OIC/NCOIC in order to stop firing if a safety hazard develops. If an explosive charge does not detonate when fired provisions will be made to restrict any troop movement within the minimum safe distance for that particular charge until the charge is rendered safe. For example, the minimum safe distance for a 1-pound (1b) block of TNT is 50 meters. If the TNT fails to detonate, no one other than demolition personnel will be allowed within 50 meters of the charge until it has been rendered safe.

(5) Communication with Range Control will be established prior to the start of any demolition exercise.

(6) The following information will be required by Range Control from the OIC/NCOIC of detonation:

(a) Unit (if any).

(b) Radio telephone operator, detonation OIC/NCOIC, and safety officer.

(c) Number of personnel involved in the training.

(d) Actual time check in and check out with Range Control.

(e) Type of explosive (i.e., TNT). Grid coordinates of detonation.

(f) Exact explosive weight of each detonation.

(g) Number of explosions.

20. Transporting explosives. Explosives will be transported and handled only under-the direct supervision of competent and qualified personnel who are thoroughly familiar with the handling and safety requirements listed in AR 190-1, AR 385-63, AR 385-64, Technical Manual (TM) 9-1300-206, Field Manual (FM) 5-250, and in FMs of specified explosives.

21. Aggressor actions. Any unit or testing team using aggressor personnel for a field training exercise will comply with the following:

a. Aggressors will be dressed distinctively, to be easily recognized as aggressor.

b. All aggressor activity will be coordinated with OIC of the exercise/problem. Aggressor will not undertake any operation, which may create an unsafe situation.

c. Aggressor attacks will be executed according to a definite coordinated, planned schedule.

d. There will be an OIC or NCOIC of aggressors who shall be present at aggressor actions. His primary duty is to ensure each is conducted safely. Each safety representative is responsible for proper care and handling of ammunition issue within his assigned unit of responsibility. An inspection will be conducted to ensure that all cartridges are blank ammunition. The safety representative will ensure that no live ammunition is presented within area/unit of responsibility. The OIC/NCOIC:

(1) Will carry no weapon and will not actively participate in aggressor actions. He will ensure no actions are undertaken which are prejudicial to safety.

(2) Will ensure that blank adapters are securely fitted to individual weapons.

(3) Must have continuous radio contact with the exercise/problem director.

e. Actual body contact between aggressors and opposing unit personnel is prohibited. Such unsafe acts as actual fighting, rock throwing, using rifle butts, etc.-- will not be tolerated. A distance of 10 meters will be maintained between the exercise unit and aggressors.

f. No aggressor action will be undertaken in an area where live ammunition is being fired. This includes field artillery positions during period of live fire. No aggressor action will take place in artillery firing positions when powder increments are present.

g. Blank cartridges will not be fired at individuals.

h. All aggressor personnel will be accounted for by name at termination of an exercise.

22. Medical support.

a. All units utilizing Fort Gordon ranges and training areas must provide their own medical support with a dedicated medical (litter bearing) vehicle, litter and medical aid bag. Combat lifesaver must have current certification. A minimum of one combat lifesaver per using unit is required. A qualified medic must be present on any range using 50 caliber (cal) ammunition and above or fragmentary device. Additional combat lifesavers are recommended if more than one range is being used simultaneously. Qualified civilian medics, doctor, etc. may be utilized with proof of qualifications.

b. For emergencies, (aeromedical evacuation) from range location to Dwight David Eisenhower Army Medical Center (DDEAMC) will be available on an on call basis. Requests for aeromedical evacuation from range locations are to be relayed to Range Control who, in turn, will contact the 4th Platoon, 498th Medical Company (AA), Fort Benning, GA. Arrival time is approximately 90 minutes. To establish adequate preparations for evacuation, the following information is required:

(1) Pickup location and destination (grid coordinates with common name should be given, if available; (i.e., LS 009009, firing point India (I)).

(2) Number of patients.

(3) Urgency of mission. (Care should be employed, in determining urgency. Routine or non-emergency cases should utilize ground ambulance or organic transportation).

(4) Brief description of the patient's condition.

(5) Call sign and frequency at pickup point; if radio is available, or name of person to contact in the event aircraft is met.

(6) Any special equipment necessary (e.g., blood (amount and type).

c. Units should incorporate the selection of a helicopter landing zone into their field standing operating procedure (SOP).

(1) Landing Zone (LZ) should be away from overhead power lines, trees, high bushes, and boulders.

(2) Landing Zone should be as flat as possible and free of depressions, ditches, and debris.

(3) Any obstacles should be observable from the air. (If panel markers or other day or night time site identification devices are available they should be utilized and stake down).

(4) Landing Zone will be free of all loose objects, which could be blown up into the helicopter rotor blades.

d. Units with organic medical vehicles and personnel are to use them for field medical coverage. Requests for additional ground evacuation and medical support will not normally be accepted unless fully justified to include reason for non-availability of organic medical support.

e. Unit commanders must ensure that all unit personnel are fully trained in basic first aid and life support procedures as indicated in appropriate soldier's manuals.

23. Accident reporting and investigation.

a. All accidents will be immediately reported by the unit, to Range Control, 791-5005/5008. Any accident/incident involving weapons or ammunition will be handled IAW paragraphs 43 and 44, section V, this regulation, pertaining to malfunctions and erratic firing.

b. Accidents will be immediately investigated by the unit's higher headquarters concerned (see section XI, this regulation).

c. Contact DPS who will complete SIR.

24. Privately owned vehicles (POVs).

a. Privately owned vehicles are prohibited in any tactical training or bivouac area, on any operational or impact areas, firebreaks, and all dirt roads (Louisville Road, Harlem Road, Gibson Road, etc). Privately owned vehicles are prohibited from parking on ranges or roads adjacent to the ranges and will not be used for transportation of military personnel or equipment to or from the ranges or training areas.

b. No privately owned motorcycles, dirt bikes, three-or four wheeled all terrain vehicles (ATV), bicycles, or other off-road vehicles are authorized in the Fort Gordon Training Complex, on any range or in any training area, except as outlined in USASC&FG Regulation 420-5, paragraph 11.

c. Privately owned vehicles may be operated and parked on range roads, as indicated in USASC&FG Regulation 420-5 during hunting season.

d. Reserve Component/National Guard (RC/NG) units conducting Annual Training (AT) may request permission to park their POVs during AT. Request for a parking area will be made through the Installation Range Officer at the time of the request for ranges and training areas.

e. Violators will be reported to the DPS (Game Wardens) for action.

25. Range fire prevention and firefighting.

a. Applicability. These measures are applicable to all portions of the Fort Gordon Military Reservation outside the cantonment area.

b. Range Fire Marshal. The Chief, Range Control, is the Range Fire Marshal.

c. Fire prevention and protection.

(1) All units conducting operations on the installation will maintain continuing programs in fire prevention, prompt reporting of fires, and fire fighting. The following points are to be emphasized:

(a) All flammable debris must be scraped away from demolition pits. A distance of 10 meters from the edge of the pit or fire will be maintained.

(b) No open fires are permitted on the installation.

(c) Operate tent stoves IAW applicable TMs and the unit SOP. Clear grass and flammable materials away from the stove by at least 1 meter. A 10-lb or 25-lb ABC fire extinguisher must be available in the tent.

(d) Lighted smoking materials and matches will not be discarded from vehicles.

(e) No smoking is allowed within 50 meters of ammunition or petroleum products.

(2) The position commander (OIC) of artillery firing points will ensure proper disposition (burning) of all excess powder charges or propellant. The burning of excess powder charges at each firing point is authorized. When a burning area has been designated by the unit, transport charges or increments to the burning area in a metal container in a cargo type vehicle, which has a metal cargo bed, the required explosive signs, and the required operational fire extinguishers. No, other material, equipment, or passengers will be transported in the cargo bed during such movements. (THE ONLY AREAS AUTHORIZED FOR POWDER BURNING ARE FIELD ARTILLERY FIRING POINTS.) Powder burning will be accomplished as follows:

(a) Contact Range Control to determine fire danger category.

(b) All personnel and equipment (except a five-man burning detail) will be at least 5 feet from the burning site.

(c) Only those powder-burning areas indicated above maybe used to burn excess powder. (Burning must be done in short strings in the center of the area and string will not exceed 50 feet in length, 12 inches wide, and be only a single layer deep). This will allow the explosive material to be gradually exposed to the flame to prevent sudden, uncontrolled flare-ups of burning explosives.

(d) Ignite the exposed explosive from the windward (downwind) side. Causing the excess powder to burn against the wind direction helps keep the fire burning slowly and under control.

(e) Sufficient fire fighting equipment and unit personnel will be present in the vicinity of the burning site to control the fire. In any case, have at least 10 gallons of water, one shovel, one fire beater, nearby and one operable fire extinguisher.

(f) Excess powder bags will be burned only during fire code 1 and 2 (see paragraph 25e). Unused powder increments will be packed in metal containers and returned to the ammunition supply point. Vehicle requirements for transporting unused powder Increments will be packed in metal containers and returned to the ammunition supply point. Vehicle requirements for transporting unused powder increments are the same as outlined in paragraph 25c(2), above.

d. Fires.

(1) Because fire potential is so great at Fort Gordon, all field units will be prepared to assist in fighting any fire, which might occur. The OIC of firing issues an order to "cease fire", and notifies Range Control, 791-5008/5005, giving name, range, and unit. OIC of Firing Ranges will have at minimum a 5-man detail standing by to assist Range Control and Post Forestry. At no time, will personnel enter the impact area to fight the fire, unless under the supervision of professional fire fighting personnel. This is a year-round requirement.

(2) Upon discovering a fire outside the impact area, contact Range Control or after 1630, contact the Fire Department. The unit commander/OIC of an exercise will move personnel and equipment away from the fire maintaining accountability of personnel. Unit will not attempt to extinguish fire unless directed by Range Control or Post Forestry Service.

(3) Anyone observing a fire will report it immediately to Range Control or after duty hours to the CDO, 791-4517, and Post Fire Department, 791-4241.

(4) Personnel of Range Control will report Range/Training Area fires to the Post Forestry/Fire Department, CDO, Chief, Range Control, and Chief, Plans, Operations, and Training Division, DPTM.

(5) The Post Forestry Service, DPW, when notified by the Post Fire Department, will take the necessary actions to extinguish the fire. Responsibility for coordinating the alert or ordering into action standby or supplemental fire righting forces and/or equipment is assigned to the Post Fire Marshal or his representative at the scene of the fire.

e. Range fire conditions.

(1) The condition will be posted on the fire danger sign across from Range Control.

CODE	POSSIBILITY OF FIRES
RED 5	EXTREME - No firing of any weapon or pyrotechnical device
ORANGE 4	CRITICAL - No high explosives, tracer. Burn barrel for pyrotechnics
YELLOW 3	HIGH - Range Control discretion
BLUE 2	MEDIUM - No restrictions
GREEN 1	LOW - No restrictions

(2) Range Control will coordinate with Georgia State Forestry Service at 1530 daily to obtain current fire urgency status.

Section IV. Range, Training Area, Training Complex, and Drop Zone Scheduling

26. Assignment of range training facilities.

a. The assignment of training areas, ranges, bivouac areas, and other range training facilities will be coordinated by the Chief, Range Control. The following priority system will be used to resolve conflicting range requests:

(1) Priority No. 1 - Firing activities directed by this or higher headquarters and units alerted for deployment for actual contingencies, off-post exercises, and emergency deployment readiness exercise called by Plans, Operations, and Training Division, DPTM, or higher headquarters.

(2) Priority No. 2 - Units undergoing an Army Training and Evaluation Program (ARTEP) external evaluation preceding a formal technical validation inspection.

(3) Priority No. 3 - United States Army Forces Command (FORSCOM) units Fort Gordon.

(4) Priority No. 4 - Other Fort Gordon resident organizations.

(5) Priority No. 5 - ARNG and USAR units conducting annual training.

(6) Priority No. 6 - Active U.S. Army units from other than Fort Gordon.

(7) Priority No. 7 - ARNG and USAR units conducting inactive duty training.

b. The assignment of a range training facility to a unit does not include the exclusive use of roads and trails within the area unless special requirements are justified and sole user authority for the duration of the problem has been approved by the Chief, Range Control.

c. Special requirement, of a unit, which cannot be accommodated by the above guidelines will be referred to Chief, Plans, Operations, and Training Division.

27. Requests for ranges and training areas/facilities.

a. Units equipped with Range Facility Management Support System (RFMSS) must schedule all ranges; training areas or facilities, using the remote access program 45 working days prior to date of requested training. A Unit Environmental Checklist will be submitted a minimum of 45 days from date of training with all pertinent data concerning training to be performed.

b. All other units must submit a memorandum in two copies to the Commander, USASC&FG, ATTN: ATZH-DPP-R (off-post units, USAR, ARNG, and civilian organizations must submit their request to the Commander, USASC&FG, ATTN: ATZH-RCT) a minimum of 45 working days prior to desired date of usage. Request will contain a point of contact (POC) who will be familiar with the planned activities. The POC will contact Range Control 1 week prior to confirm scheduled ranges training areas, or facilities. Units must sign for training areas prior to occupation. Requests will include six-digit grid coordinates for command post. Digging of foxholes and use of pyrotechnics must also be requested.

c. Schedule training area based on unit mission/goals and size of unit, (i.e., do not schedule live training areas for a platoon conducting squad tactics, unless absolutely necessary to meet unit mission/ goals). Ranges available for scheduling are in appendix B.

d. All personnel desiring to take Range Certification Test must have a memorandum, signed by an O5 (lieutenant colonel (LTC)) or above, certifying that they are proficient on appropriate weapon system and applicable regulations. This memorandum must be received in the Range Control office NLT 1600 the Wednesday prior to the test. Range Control will conduct certification testing each Friday at 0900 at the Range Training complex located on Range 6. Upon completion, Fort Gordon (FG) Form 6729-R-E (Range Certification) will be issued. Certification is good for 1 year only.

e. Requests for small arms ranges will contain the following information:

(1) Date and time period the facility is to be occupied. Allow time for preparation, non-firing and cleanup activities.

(2) Type of weapons and ammunition to be used.

(3) Type of firing.

(4) POC, phone number.

(5) If units want to allow spectators on a range, the provisions of AR 385-65, chapter 4, will be followed. In addition, units will include in their request that spectators will be present on the range. Units will ensure spectators execute a Release and Hold Harmless Agreement (see sample at figure 1) prior to entering range. Parents will sign for minors (age 17 and below).

f. Requests for artillery, mortar, and live firing areas will include:

(1) Date and time period required. Allow time for preparation, non-firing and clean up activities.

(2) Firing position location (1/1000 accuracy).

(3) Observation posts requirements and locations.

(4) Type of weapon (caliber and model) and ammunition (fuse and type of projectile).

NOTE: Ammunition must be approved for overhead fire.

(5) Types of fire (high angle, low angle, or direct fire).

(6) Time/dates live fire.

(7) POC, phone number.

g. Requests for training facilities to support demolition training must include:

(1) Firing and detonation location coordinates.

(2) Type and amount of explosives.

(3) Elevation of explosions (airspace requirements).

(4) Exact times for the detonations.

(5) POC, phone number.

NOTE: Use of demolition pit is authorized for training purposes only.

h. Complex exercises involving several training maneuvers or bivouac areas or which involve smoke or chemical attacks, aggressor activities, etc., will include a schedule of events (FM 25-4) and overlay depicting routes of march locations of special activities, and dates and times of events.

i. Reserve component units will follow the guidelines established by RCSD, DPTM when submitting requests to use range facilities at Fort Gordon. Fort Gordon units acting as hosts for off-post units may make all administrative arrangements for the sponsored unit to use range facilities.

28. Cancellations. Once it is determined that a range or training area/facility will not be required, a telephonic report will be made to Range Control, 791-5005/5008, as soon as possible, this will allow Range Control to make the facility available to others. Range Control will maintain a record of no-shows. Repeated failures to notify Range Control of cancellations will be reported to the units' higher headquarters for resolution.

29. Planning and operating considerations. Personnel responsible for preparing requests for range training facilities, and for programming the exercise/problem must consider the criteria established in AR 385-62 and AR 385-63. No portion of the surface danger zone for weapons or explosives will intersect or cross the following areas:

a. Reservation boundaries.

b. Post ammunition storage area and post ammunition vehicle holding area.

c. Built-up areas.

d. Cantonment areas.

e. Bivouac site.

30. Range and training area facility utilization.

a. Units will be authorized to use Fort Gordon ranges and training areas/facilities only if the following criteria have been met:

(1) Units have submitted request*s* IAW paragraph 27, above.

(2) Requests for use have been approved.

(3) The occupying units must maintain communications with Range Control IAW section VII, this regulation.

b. Units using Fort Gordon ranges/training areas/facilities in violation of any provisions of this regulation are subject to be removed from the range/training area for a 30-day period.

c. Reconnaissance of training areas may occur 24 hours before occupation of training areas.

d. Reconnaissance will be conducted using tactical or General Services Administration (GSA) vehicles. No POVs authorized.

31. Range and training area/facility police.

a. Range and training area facility police policy.

(1) Range Control is responsible for the police of ranges and training areas/facility outside the cantonment area when not in use by units conducting training. Greater emphasis will be placed upon areas of heavy use (e.g., firing points, observation posts, bivouac areas, and stream crossings). Once a range or training area is signed for by the using unit, the unit assumes full responsibility for its police. Any debris found prior to a unit signing for a facility will be the responsibility of Range Control. Notify Range Control of any deficiencies prior to occupation.

(2) Using units are responsible for the removal and disposal of unsightly and objectionable debris (paper, discarded field wire, wood, cardboard, barbed wire, bottles, boxes, cans, containers, rags. and camouflage or roadblock material; i.e., lumber, brushwood, small trees, and branches).

(3) Range police activities will be accomplished IAW the following guidelines:

(a) Dead trees and brush piles will not be removed from infrequently used wooded areas since these items afford cover and concealment for wildlife.

(b) Upon completion of training, the unit commander will require a thorough police of the range, or training area/facility to ensure that no debris has been left in the area, and that weapon spade holes, sumps, etc., have been filled and leveled. Foxholes will not be dug under any circumstances unless prior approval has been obtained from Chief, Range Control. All destroyed, or damaged firing point markers will be reported to Range Control office, 791-5005.

(c) Garbage and trash accumulated by using range facilities or training areas will not be buried or discarded. All trash will be collected and removed from the range/training area and deposited into a dumpster.

(d) Anyone discovering an area which is not properly policed will report the incident to Range Control.

(4) Range Control is responsible for police adjacent to the impact area.

b. Police of firing points, position areas, ranges, courses, and training facilities.

(1) The OIC/NCOIC of all activities has primary responsibility for ensuring that police of the area used meets the highest ecological standards prior to leaving the range/area.

(2) Before a unit has departed an area, it will be inspected by Range Control. If it is desired to delay clearing an area by more than 24 hours, coordination with Range Control is required.

(3) It is expected that an honest effort will be made by the using unit to police an area prior to inspection time. Adequate police of an area is defined as follows:

(a) Police of all trash whether left by the using unit or not, within 200-meter radius of the training area. Adequate police of an area is defined as follows:

(b) Fill in all holes.

(c) Knock down all dirt mounds regardless of cause.

(d) Remove all communication wire.

(e) Remove concertina wire.

(4) Units departing training areas on weekends/holidays will be cleared by Range Control the following workday. Units will be required to return to Fort Gordon if police is inadequate.

32. Damage, loss, or theft of range equipment or facilities.

a. Restitution for any damage, loss, theft of range equipment or facilities is the responsibility of the unit occupying range or range facility. The occupying unit will make restitution, as required, by immediately repairing any damage, replacing any lost or stolen equipment, or by completing appropriate cash collection arrangements with Directorate of Resource Management (DRM). Arrangements for appropriate restitution must be made before the occupying unit will be cleared from the range by Range Control.

b. Any unit that fails to clear a range or training area through failure to correct a deficiency or to provide restitution for damage, loss or theft of range equipment or facilities will be denied further access to Fort Gordon facilities until the required correction or restitution is made.

33. Scheduling of landing and drop zones.

a. The LZ is located in Training Area 37 (vicinity of LG8290). The LZ is a dirt strip covered with perforated steel platform (PSP). The runway is 3,500 feet long and 60 feet wide. The LZ is presently unable to handle fixed wing aircraft. After coordination with Range Control, units may use the LZ to land rotary aircraft.

b. The Preston DZ is located in Training Area 23 (vicinity of LG 8789). The DZ is 1,260 meters by 500 meters. The occupying unit commander must assume responsibility for jumper safety and brief jumpers on tree landing procedures. The power lines paralleling the eastern edge of the DZ must be turned off prior to personnel drops. The DZ is approved for day operations only. For additional information on DZ, see appendix C.

c. Requests to use the LZ/DZ will be submitted, in writing, to Commander, USASC&FG, ATTN: ATZH-DPP-R, to arrive NLT 45 days prior to requested date of usage. Army National

Guard and Reserve units will submit request through RCSD, DPTM. Request will include the following information:

(1) Unit name.

(2) Size of unit (i.e., platoon, company, or battalion).

(3) Number of personnel to be dropped/landed.

(4) Number and type of equipment dropped/landed.

(5) Number of aircraft involved in exercise by type (i.e., airborne, assault, etc.).

(6) Date and time group for commencement of activity and time of completion.

(7) POC and telephone number of requesting unit.

Section V. Range Operations and Safety Procedures.

34. Safety requirements.

a. Using unit commander will ensure that personnel designated as OIC and RSO meet qualifications in AR 385-63, table 4-1, for these duties.

b. All persons engaged in live tire training will be familiar with pertinent ARs, FMs, TMs, and other directives regarding the care, handling, operation, and employment, and safety precautions of the weapon(s) and ammunition being fired.

c. The OIC and RSO will be present at all times during the conduct of firing/training. USASC&FG Regulation 210-21, AR 385-63, and rating procedures must be on hand.

d. All personnel on or in the immediate vicinity of a firing line will have and wear approved hearing protection devices as specified in AR 40-5, or as approved by the National Rifle Association.

e. All personnel on or in the immediate vicinity of a firing line will wear appropriate protective headgear on ranges employing explosive and fragmentation type munitions, requiring movement while firing, and/or employing overhead fire. Using unit commander may specify the wear of protective headgear on ranges other than those noted above.

f. Running or double-timing on ranges is prohibited except in emergencies or when specifically required by the course of fire.

g. Smoking on range and/or in buildings is prohibited except in the designated areas.

h. Firing will not commence on any range unless appropriate medical support is on site. The occupying unit utilizing the range will provide medics or combat lifesavers.

i. Training ammunition will be maintained in the designated ammunition point for each range until issued to the firing personnel on the firing line. Training ammunition will not be stored unattended or overnight on a range.

35. Operating procedures-direct fire ranges. The following procedures apply to all ranges and will be accomplished by the Range Control OIC unless otherwise specified:

a. Before firing.

(1) Block all access roads into the impact area of the range being used.

(2) Obtain a scarlet range flag from Range Control and ensure it is displayed on the range flagpole, prior to firing. In addition, when conducting night firing, turn on the red blinking light located adjacent to Range Control.

(3) Conduct a visual and/or physical reconnaissance of the range impact area to ensure it is cleared of personnel and that only equipment required for the course of fire is present. This excludes fragmentation type where a visual reconnaissance only is required.

(4) Visually inspect the range and its administrative support facilities. Report any unsatisfactory or unsafe conditions to Range Control. Unsafe conditions noted on or near the firing line, on or near the ammunition storage area, or in the target area must be corrected prior to use of the range.

(5) Ensure a range operating and safety briefing is given to all participants.

(6) Ensure all items on checklist are complete.

(7) Notify Range Control that the above has been accomplished and obtain approval to open the range for firing.

b. During firing.

(1) Comply with operating procedures specified for the range in use.

(2) Comply with specific safety procedures.

(3) A cease-fire will be initiated and immediately reported on any and all accidents, incidents, range fires, or other activities likely to result in personal injury. Ensure that immediate lifesaving measures are taken pending arrival of emergency medical personnel.

c. After firing.

(1) Account for all used and unused ammunition.

(2) Ensure range is returned to the state in which it was found prior to unit occupation.

(3) Recover scarlet range pennant and, if used, red blinking light.

(4) Notify Range Control that firing is complete, items (1) through (3) above have been accomplished, and ensure range is ready for clearance (see appendix D).

36. Restrictions. The general restrictions given below apply to all ranges.

a. Digging of entrenchment, foxholes, emplacement of protective berms, and similar modifications to existing ranges is prohibited.

b. Relocating permanent or temporary structures as well as relocation of portable latrines and bleachers by using units is prohibited.

c. Parking of vehicles (military and private) is restricted to designated parking areas. Parking of vehicles on or along the side of range access roads as well as range roads is prohibited.

d. Using a range for other than the designated purpose specified in the specific range SOP is prohibited.

e. Tracer ammunition use is restricted to Range 11, 14,and 16. Refer to appendix B for permissible weapons/ammunition.

37. Artillery firing points procedures.

a. Artillery firing is restricted to firing points designated by the Chief, Range Control. Approved firing points are listed in appendix E.

b. Using unit will prepare fan overlays for each firing point to be used and submit them to the Chief, Control, NLT 2 weeks prior to desired firing date. Overlay will be prepared IAW AR 385-63.

c. General safety, operating procedures, and restrictions specified for ranges, above, apply except as follows:

(1) Preparation of a firing SOP, to include specific operating and safety procedures, is the occupying unit's responsibility.

(2) Using unit OIC will designate and establish temporary roadblocks to preclude uncontrolled access to their Range safety zone immediately in front of the firing battery position.

(3) Roadblocks and guard will be position in firing point area.

(4) All firing conducted will be observed. Location of observation firing point is at appendix E.

(5) Road movement of self-propelled howitzers is restricted to dirt roads, firebreaks, and to the area in the immediate vicinity of a firing point required to position the vehicle for firing. Occupying unit will avoid destruction of trees or other flora.

(6) The only authorized tracked vehicle trail starts at the Field Artillery Motor Pool (LS90509750) crossing 13th Street into Training Area 16 crossing hardened crossing on Range Road paralleling Range Road for 3.8 miles and crossing at Range 4 (hardened) into Training Area 26 out of Training Area 26 crossing Gibson (hardened) into Training Area 25 turn left onto Sawmill Road (clay road) follow Sawmill Road to access Firing Points D, E, F, and I. The tracked vehicle trail takes a right between Training Areas 29 and 30 to access Firing Points K and L. At Firing Point K follow dirt road for 5/8 mile to the Fish and Wildlife building to the hardened crossing at McDuffie Road into Training Area 23 to Firing Point G. From Firing Point K follow road to the four-way stop, it turns into Battle Hill Road, go straight to access Firing Point C. Follow Battle Hill to the stop sign and turn right onto Jones Chapel Road (clay) follow for 1/2 mile turn onto Training Area access road into 37A to access Firing Point J. Follow airstrip to hardened crossing over Gibson Road into Training Area 36 to access Firing Points A and B. From Firing Point A follow the west trail to cross over Harlem Road (clay) to Firing Point H. The tank trail is off limits to all POVs at all times.

(7) Parking is not authorized on the ranges for POVs. Parking is permitted on the ranges for military vehicles. Parking in the training areas is allowed in Training Areas 16, 25, 26, 37A, and Training Area 23 Preston DZ. No parking is allowed on the tank trail for POVs or military vehicles. No all terrain vehicles (ATVs) are allowed on any training areas or ranges.

38. Artillery safety procedures.

a. An OIC and RSO is required for each firing point.

b. The chain of command to which the OIC is assigned shall have complete responsibility for all aspects of firing and safety. Each commander will ensure that personnel who are participating in firing exercises are trained and/or supervised as specified in this regulation.

c. Commanders will ensure that the positions of OIC and OIC of training are firmly established prior to firing exercises. The commander must ensure appropriate assignments are made based upon his training requirements. The following are offered as examples of combination of responsibilities:

TYPE OF EXERCISE	OIC OF TRAINING	OIC
FTX	Bn Cdr/XO/S3	Btry Cdr/XO/FDO
ARTEP	Bn Cdr/XO/S3	Btry Cdr/Btry XO

d. Major commanders are authorized to publish safety SOP directives, which conform to the provisions of AR 385-62, AR 385-63, and the spirit of this regulation in order to meet the requirements of special situations. In no case will safety SOP publications be less restrictive or eliminate any of the safety checks required herein. Such publications must be coordinated with Headquarters, USASC&FG, ATTN: ATZH-DPP-R prior to publication implementation.

39. Personnel to perform safety duties.

a. Officer in charge.

(1) A commissioned officer will be present in each firing position.

(2) The OIC's next higher commander will ensure the OIC is properly instructed in his safety responsibility and is properly certified.

(3) The OIC's duties are spelled out in detail in paragraph 39 of this regulation, AR 386-62, and AR 395-63. Generally, his responsibilities include:

(a) Coordinating with the Chief, Range Control to obtain or verify the proper, authorized firing positions and impact area.

(b) Establishing an overall safety system within the firing position.

(c) Ensuring those personnel required to perform safety checks are competent, properly briefed on their duties, and command certified by their parent unit. The OIC must have attended Range Safety Briefing and have a FG Form 6729-R-E card.

(d) Ensuring rigid compliance with this regulation and common sense safety rules and practices.

(4) The OIC may also perform the functions required of the battery executive officer (XO), fire direction center (FDC), chief of firing battery, or chief of section when the size and scope of the exercise or problem are such that he can accomplish these tasks and still assure safety. While live firing is in progress, the OIC's duties will be limited to those he can perform without leaving the firing position.

b. Battery personnel.

(1) The Battery XO and Chief of Firing Battery are responsible for the general safety practices of the firing battery and for the professional competence of their personnel.

(2) The Chief of Section is responsible for all safety checks required within his section to include checks of the weapon and ammunition, provided he is command certified as being qualified to perform these checks.

40. Safety duties.

a. BEFORE DEPARTING FOR THE RANGE, the OIC and all other safety personnel will read, understand, and comply with:

(1) AR 385-62 or AR 385-63, as appropriate.

(2) USASC&FG Regulation 210-21.

(3) FM 6-50, chapter 5, 7, 12, and appendix D.

(4) Appropriate FMs and TMs for their weapon and ammunition.

b. BEFORE DEPARTING THE RANGE, the OIC will ensure that the following references and items of equipment for use in the firing position for safety purposes:

(1) USASC&FG Regulation 210-21.

(2) Copy of Artillery (Paladin) Procedures Manual

(3) Applicable tabular firing table.

(4) Applicable graphical firing table.

(5) Applicable graphical site table.

(6) Map of the area.

(7) A second properly functioning and decimated aiming circle.

(8) A serviceable gunner's guardant.

(9) FM 6-50.

c. BEFORE FIRING.

(1) The OIC will accomplish the following tasks:

(a) Verify exercise and date, and confirm any pen-and-ink changes with the Range Office.

(b) Prepare the safety diagram. The OIC will have in his possession copies of all, safety diagrams, and safety Ts applicable to the firing point for which he is responsible. All other personnel performing safety duties will have copies of appropriate safety Ts. The accuracy of safety diagrams/safety Ts will be verified by independent computations.

(c) Verify that all personnel responsible for safety checks are command certified and have the appropriate safety diagram/safety Ts.

(d) Verify that the battery is in the position specified.

(e) Verify the lay of the battery to within one mil variation from the azimuth of fire using a properly decimated second aiming circle. The second aiming circle may be oriented by three means: orienting angle, magnetic needle, or simultaneous observation. To take into account for magnetic variations, a maximum variation of plus or minus 10 mils will be allowed between the initial lay circle and the second circle when verifying lay with the magnetic needle method. If simultaneous observation is used to orient the initial lay circle; a second observation will be made with the safety aiming circle using a different master station.

(f) Verify that all sections and the FDC are using the common deflection used to compote the safety diagram.

(g) Verify that the FDC has the data drawn on the firing chart.

(h) Verify that range clearance has been obtained from Range Control.

(i) Verify azimuth of fire for each howitzer by means of a compass.

(2) The OIC will ensure that the following actions are properly accomplished. He may be assisted by qualified command certified members of the chain of command, such as the battery safety officer, FDC, or chief, firing battery.

(a) Verify the proper positioning of the aiming posts collimator, or aiming point in reference to the referred deflection by sighting through the weapon sight.

(b) Verify boresight of each weapon after each change of firing position.

(c) Verify the sight settings (to include slipping azimuth scale) and placement of safety stakes or safety tapes/chalk marks (self-propelled weapons).

(d) Verify minimum quadrant elevation (minimum quadroon elevation determined by the XO/firing platoon commander). Compare the XO's minimum quadrant elevation for the minimum range from the Artillery (Paladin) Procedures Manual, using the larger of the two as the safe minimum quadrant elevation.

(e) Verify that ammunition to be fired is the type specified on the DA Form 581 (Request or Issue and Turn-In of Ammunition).

(f) Verity that the visible portion of applicable danger areas are clear of personnel (check with forward observer). Ensure that firing does not commence until rounds can be observed visibly from manned observation post or electronically with reliable radar.

d. DURING FIRING, the OIC assisted by the command certified battery XO, FDC, and Chief of Firing Battery will:

(1) Closely, supervise the safe firing of the battery, to include proper performance of safety duties by all personnel and eliminating all unsafe conditions. Examples of unsafe conditions are:

(a) Safety features of weapon do not operate.

(b) Powder pit located 50 meters to rear of gun.

(c) Personnel smoking near pieces.

(d) Improper handling of ammunition.

(e) Time fuses previously set and not room to SAFE.

(f) Rounds on floor of howitzer.

(g) Failure of cannoneer to inspect powder chamber and bore after each round fired.

(h) Failure to swab powder chamber after each round fired from weapons using separate loading ammunition.

(i) Failure to level bubbles.

(j) Failure to listen to fire commands and reads backs.

(k) Guns will be taped for both deflection and quadrant, high and low angle to be located both inside and outside of gun.

(l) There will be no more than two rounds fused up at any given time.

(m) Failure to properly apply registration corrections to appropriate safety diagrams.

(2) Designate a command-certified officer or NCO to be responsible for the safety duties of the Chief of Section for sections led by uncertified Chief of Section (see paragraph e, below). If no command certified individual is available to assume the safety responsibilities of a particular section, that section may follow all commands but may not actually cut charges, set fuses, or fire rounds. Such sections may only dry fire.

(3) Visually check for parallel laying.

(4) Report accidents, malfunctions, erratic firings, and violation of this range regulation immediately to the appropriate next higher commander and to Range Control.

e. DURING FIRING, the command certified chief of section supervised by the OIC, battery XO, and/or chief, firing battery, will:

(1) Ensure his section fires only serviceable rounds of authorized ammunition. If he has any doubt whether a particular type round is authorized, he will check with the OIC before allowing the type round in question to be loaded and fired.

(2) Ensure his section fires only the proper, safe, charge as reflected on his safety T.

(a) He will ensure that the proper charge increments for each type round are present before the round is prepared for firing.

(b) Once the round is prepared, he will ensure that the correct number and type of charge increments are placed in the powder chamber before firing the howitzer.

(c) For mortar rounds, the remaining charge increments must be physically counted and verified as correct before each round is fired.

(3) Ensure that rounds are not fired below minimum quadrant elevation or above maximum quadrant elevation, outside lateral safe deflection limits, or with fuse settings below minimum time, as specified on his safety T.

(4) For all commands, which are unsafe to fire, command UNSAFE TO FIRE, and give reasons. Example: UNSAFE TO FIRE, 3 mils outside right safety limits and 20 mils above maximum quadrant elevation, or UNSAFE TO FIRE, 5 mils below minimum quadrant elevation.

(5) Accept final responsibility for safety of weapon settings and crew prior to command FIRE.

(6) Command CHECK FIRE if he observes any unsafe conditions, report these conditions to the chain of command, and suspend firing until the unsafe conditions are corrected.

f. The FDC will ensure that the safety limits specified are properly plotted on the firing charts and that only safe fire commands are transmitted to the firing sections. The FDC will be designated by the OIC and may be either a commissioned or NCO officer. Further he will:

(1) Verify and apply registration corrections to appropriate safety diagrams/safety T, to include those held by other individuals performing safety duties within the firing position.

(2) Exercise special caution in special situations. If a deflection difference or special correction is sent to the firing sections, he must ensure that for each section the total of the announced deflection and the deflections on the gunner's aid will be within lateral safety limits. This applies to quadrant corrections and range limits as well.

41. Primary and supervisory responsibility.

a. For every safety check connected with firing, there is a soldier responsible for performing the safety check, and there is another soldier responsible for seeing that it is done properly. The soldier performing the safety check has the primary responsibility; the soldier seeing that it is done has supervisory responsibility. In most cases, the supervisory responsibility rests with the chain of command. If any unsafe acts are committed, the severity of disciplinary action taken against those responsible depends on the unsafe act, the circumstances, and whether the soldiers involved have primary or supervisory responsibility.

b. To eliminate possible confusion about whom has which type responsibility, the following list (table 1) of unsafe acts indicates who has primary and supervisory responsibility for preventing the unsafe act. This list is not all encompassing but is detailed enough to indicate clearly what type firing safety responsibilities rest at which level in the chain of command. NOTE: The safety responsibilities of the chief of section are transferred to any command certified officer/NCO who temporarily assumes the duties of the chief of section.

Table 1
Unsafe Acts Responsibility

UNSAFE ACT RESULTING IN A ROUND BEING FIRED OUT UNSAFELY	RESPONSIBILITY PRIMARY	SUPERVISORY
Unsafe delayed fuse set by gunner and fired by C/Sec	C/Sec	C/FB, XO
Unsafe set by assistant gunner and fired by C/Sec	C/Sec	C/FB, XO
Unsafe fuse set by cannoneer and fired by C/Sec	C/Sec	C/FB, XO
Wrong charge cut by cannoneer and fired by C/Sec	C/Sec	C/FB, XO
Improper boresight by gunner	C/Sec	C/Sec, XO
Counter reset or slipping azimuth scale error by gunner	C/Sec	C/FB, XO
Preparation of handling accident with ammo, resulting in damage to personnel or equipment	C/Sec	C/FB, XO,OIC
Weapon deficiencies; bad ram; bad recoil mechanism, bad sights	C/Sec	C/FB, XO

Table 1
Unsafe Acts Responsibility

UNSAFE ACT RESULTING IN A ROUND BEING FIRED OUT OF SAFETY	RESPONSIBILITY PRIMARY	SUPERVISORY
Unsafe data sent by FDC, set by howitzer crew and firing by C/Sec	Btry FDO	C/FB, XO
Weapon laid out	XO	OIC
Intervening crest (XO minimum quadrant elevation)	XO	C/Sec, OIC
Incorrect safety diagram	OIC	XO
Wrong firing point	OIC	XO
Unauthorized ammo	XO	OIC, C/FB, C/Sec
Suspended lot of ammo: Failure to properly notify units	Ammo Supply Off	
Failure to implement suspension	XO	OIC, C/FB
Bad survey:	Survey Off	OIC, S3
Grid of firing point	Survey Off	OIC, S3
Oriented line	Survey Off	XO, OIC, S3
Declination constant	XO	OIC

42. Artillery (Paladin) Procedures Manual.

a. The Artillery (Paladin) Procedures Manual will be updated and maintained by Chief, Range Control, for approved firing activities being conducted on any training area. No ammunition, fuse, weapon, type of fire, or charge other than that authorized by the manual will be used.

b. The minimum and maximum ranges established in the Artillery (Paladin) Procedures Manual DO NOT provide for vertical interval. To determine site, the highest attitude will be used at the maximum range. When an isolated high peak at minimum range or a depression at

maximum range will cause an unnecessary limitation along the whole minimum or maximum range line. A separate site will be computed for the peak or depression, and firing in this area will be limited by the computed quadrant elevation and necessary deflection limits of the area.

c. Surface danger areas, computed and constructed by Range Control office personnel, include piece displacement factors.

(1) All weapons will be located within 200- meter radius of the firing marker or surveyed grid location. When firing extended fonts, all weapons displaced outside the 200-meter radius from firing point marker will have separate safety "T" computed based on displacement from the firing point marker. Ensure safety for weapons outside the 200-meter radius is within the safety limits of the safety computed from the firing point marker. The unit using an extended front must yield when in conflict with any firing point occupation. Extended front must be requested, in advance, through Range Scheduling.

(2) Special firing requirements/requests, which are not covered above, should be referred to the Chief, Range Control, for coordination and/or decision.

(3) Requests for firing position from units using less than a complete battery of weapons should reflect a preference for a firing position of less than 200-moter radius. A smaller firing position radius allows the size of the impact area assigned on the Artillery (Paladin) Procedures Manual.

d. Prior to registration, targets must be selected in the central portion of the impact area. After registration, registration corrections must be applied to deflection and quadrant elevation limits. Should no registration be conducted, metro add velocity error (VE) correction will be applied to these limits or all targets will continue to be selected in the central portion of range/deflection limits as prescribed in the Artillery (Paladin) Procedures Manual.

e. In high angle fire, the deflection limits will be corrected by moving the right limit to the left by the amount of maximum drift for the charge being fired within the range limits. The left deflection limit will be corrected by moving the left limit to the left by the amount of minimum drift for the charges being fired within the range limits in the Artillery (Paladin) Procedures Manual.

f. If the minimum quadrant elevation to clear a mask is greater than minimum quadrant elevation computed from the Artillery (Paladin) Procedures Manual; the minimum quadrant elevation for clearing the mask will be used to determine the near limit of the impact area. Members of the chain of command computing the minimum quadrant elevation to mask (XO's minimum quadrant elevation) will use FM 6-50, chapter 10, as a guide.

g. The officer/NCO responsible for the operation of the FDC will have the safety limits specified by the Artillery (Paladin) Procedures Manual drawn on the firing charts. Data required drawn on charts are the lateral azimuth limits and the minimum/maximum ranges, to include doglegs.

h. Basic safety diagram. See FM 6-50, chapter 12.

i. Safety stake diagram. See FM 6-50, chapter 12.

j. Minimum quadrant elevation (XO's minimum quadrant elevation). See FM 6-50, chapter 7.

k. Use of safety 'T'. See FM 6-50, chapter 12.

l. Special situations.

(1) Safety computations. Safety computations for high angle and shell illuminating, shell improved capabilities missile, and shell smoke (white phosphorus and hexachloride) are discussed in FM 6-50, chapter 12.

(2) Firing. Firing of shell illuminating, shell smoke, and shell white phosphorus is not authorized when the surface wind exceeds 18 knots.

(3) Fire prevention. As a fire prevention measure, clearance to fire pyrotechnics must be obtained from Range Control. Winds aloft must be considered for possibility of causing the flare to drift out of the impact area. In such cases where this does occur, firing of shell illuminating is prohibited, even though surface winds may be less than 18 knots.

(4) Shell beehive. The safety data for shell beehive will be the same as that computed for the high explosives diagram, except that the beehive tables are used to obtain elevation and fuse settings. Maximum quadrant elevation for direct fire will be specified on the safety card.

m. Direct firing of artillery weapons systems is unauthorized due to terrain and range limitation.

43. Misfires and rounds in hot tubes.

a. Officer in Charge. In the event of a misfire or rounds in hot tubes, the OIC is responsible to ensure:

(1) All personnel are safe.

(2) Proper procedures are followed as outlined in the appropriate weapons operators' manual.

(3) Range Control is notified and may request technical assistance from post support elements through Range Control.

b. Procedures. In the event of a misfire, check fire, or check fire with rounds in hot tubes, only the latest procedures as outlined in the appropriate Weapons Operators Manual will be followed. All responsible personnel must be thoroughly familiar with the latest procedures.

44. Malfunctions.

a. In the event of a weapon or ammunition malfunction other than routine cases, such as misfires, hang fires, and duds, the OIC will:

(1) Suspend firing.

(2) Ensure that the weapon and ammunition involved are retained intact.

(3) Make a report to Range Control. A responsible individual from Range Control will then immediately notify the Chief, Ammunition Branch (post ammunition officer, and chief maintenance), DPW, in all cases except instances involving nonstandard Army inventory items.

(4) Continue exercise/problem upon release authority issued by the Chief, Range Control, or by his designated representative.

b. The representative of the Chief, Range Control, chief of maintenance, unit representative and the Chief, Signal Branch Safety Office, will conduct a technical investigation of the incident, and will:

(1) Inform the Chief, Range Control, of the incident, findings, actions taken, and recommendations.

(2) Request through command channels the submission of a detailed report if appropriate, from OIC. This report will be submitted IAW AR 15-6 within 10 days, through channels to this Headquarters, ATTN: ATZH-DPP-R (exempt reports control, AR 335-15, paragraph 7-2t).

c. The Chief, Range Control or his designated representative will:

(1) Notify the Chief, Plans, Operations and Training Division, DPTM.

(2) Notify the Chief, Ammunition Branch, and DPW.

(3) Take the necessary action to advise all subordinate commands if the incident involved suspended ammunitions.

(4) Notify DPS if SIR is necessary.

(5) Notify the Chief, Signal Branch Safety Office.

(6) Notify other agencies, as required, (i.e. Fire Department).

(7) Authorize continuance of exercise/problem if circumstances indicate such action is appropriate.

45. Erratic firing. Any projectile that burst or lands outside safety limits as prescribed by the Artillery (Paladin) Procedures Manual will require immediate action and investigation, as outlined below, to determine and correct the cause.

a. Anyone detecting rounds landing outside their authorized limits or outside of the established impact area will:

(1) Cause the responsible unit to suspend firing if the unit can be immediately identified.

(2) Immediately report the incident to Range Control. The report will include:

(a) Date and time erratic round was observed.

(b) Injury to personnel.

(c) Equipment damaged.

(d) Number of rounds.

(e) Location of round.

(f) Airburst estimated height.

(g) Ground burst, crater available. (Ensure that the crater and any fragments are not disturbed prior to the arrival of the Range Officer.)

(h) Location of observed.

(i) Knowledge of source of erratic round.

(j) Name and unit of person reporting.

b. Upon receipt of a report of a round out of impact, whether ground or air burst, Range Control will issue the following directives to all artillery and mortar firing points on the appropriate ranges. All artillery and mortar firing points… All artillery and mortar - firing points, All artillery and mortar firing points, All artillery and mortar firing points, This is Range Control... This is Range Control. CEASE FIRE.. FREEZE... CEASE- FIRE. FREEZE All appropriate firing points will then stand by to acknowledge receipt of the call by responding with initials of radio telephone operator when his firing point is called.

c. On receipt of a CEASE-FIRE message, containing the word FREEZE, no weapons will be moved or fired. Sighting and aiming stakes will be left in place, fire control equipment will not be altered, and ammunition will not be moved. All personnel will move away from the weapons.

d. Ground burst will be analyzed as soon as possible to determine if any direct fire ranges were affected. Direct fire ranges are selectively put into a dry status when their danger fans cover the crater analysis and will remain so until the crater team returns from down range.

e. The Chief, Range Control, will:

(1) Notify the Chief, Plans, Operations, and Training Division, DPTM.

(2) Notify the Signal Branch Safety Office of the incident.

(3) Notify DPS if SIR is necessary.

(4) Analyze available facts and data to determine suspect unit.

(5) Require technical service investigation if ammunition or weapon malfunction is suspected. Notify Chief, Ammunition Branch, and DPW.

(6) Report incidents to the suspect unit's major command headquarters and require them to conduct an investigation IAW AR 15-6. A copy of the investigation will be submitted to Commander, USASC&FG, ATTN: ATZH-DPP-R.

f. As the investigation proceeds with the identification of caliber and the responsible firing unit, those units determined to be safe will return to firing status. Units, which have not fired within 30 minutes of reported impact would be allowed to start fire once circumstances permit.

g. The OIC of a suspect or known unit will:

(1) Suspend firing.

(2) Immediately cause cannoneers to fall in at the rear or their pieces and ensure that all pieces remain as laid. No ammunition will be disturbed until clearance has been given by the Chief, Range Control.

(3) Determine the facts surrounding the incident and report them to both the Chief, Range Control and an appointed disinterested investigating officer.

h. Upon completion of investigation, the investigating officer will notify the Chief, Range Control of units cleared. Range Control will notify the unit concerned when the check fire has been lifted. Once a unit is given a check fire by Range Control, no one but the Chief, Range Control has the authority to lift it.

46. Unsafe conditions.

a. Any individual (military or civilian) who observes an unsafe act or condition may cause firing to cease by commanding CEASE- FIRE. The act or condition will than be explained and corrected immediately.

b. Everyone must remain alert and watchful for personnel, vehicles, or aircraft, which might inadvertently wander into danger areas. If this occurs, firing will cease and notify Range Control immediately. Firing will not be resumed until personnel, vehicles, or aircraft have cleared the danger area and Range Control has lifted the check fire.

47. Surface danger area "D".

a. The surface danger area "D" is the area where hazards are minimal and will vary according to the required dimensions for the target area, impact area, and danger areas "A", 4, Cll, and "E". AR 385-63, chapter 11, discusses ammunition clearance for overhead fire. When personnel occupy any part of surface danger area "D", only lots of ammunition that is cleared for overhead fire will be used. The vast majority of firing points at Fort Gordon will require the use of ammunition cleared for overhead fire. Ammunition requisitions should be clearly marked "For Overhead Fire" whenever personnel may be in surface danger area "D".

b. All artillery ammunition used in training exercises involving overhead firing and close support of ground troops by over head or flanking fire will be from the same lot number for each exercise. If lot numbers must be changed, the new lot will be fired for adjustment prior to firing over head for unprotected troops. Small quantities of several lots of ammunition may be fired in training exercises; however when firing mixed lots, over head and flanking fire is prohibited.

c. If ammunition cleared for overhead fire is not available from the ammunition supply point, special precautions must be taken to preclude access to surface danger area "D". Roads and tank trails passing under the trajectory of artillery ammunition must be blocked and all personnel removed from Area "D" before firing can commence.

d. Area "D" will not be occupied under any circumstances during direct fire, or during the firing of any mortar ammunition.

48. Surface danger area "E".

a. The surface danger area "E", for all cannon firing indirect fire, is that area immediately in front of the piece bounded by the deflection limits expanded right and left by 445 mils, and extending forward by 300 meters for a 105 millimeter (mm) howitzer, 350 meters for a 155mm and 84-inch howitzer.

b. During firing, personnel or vehicles will NOT be permitted inside area "E". The firing unit must control access to roads passing through area "E". Road guards must be able to communicate with the fire control element of their unit.

c. Only during the conduct of unit training using position areas in tactical configurations, such as terrain positioning, box, circular, star, etc., may unit personnel be inside area "E" during firing. These personnel will be limited to gun crews and the minimum number of people

required to lay the weapons, complete ammunition preparations, or perform safety functions. Commanders are responsible to ensure that personnel inside area "E" adhere strictly to hearing conservation provisions.

49. Fire and maneuver exercises.

a. Live fire combined arms exercises are authorized within the limits of this regulation, AR 385-63, and the restrictions of the weapons ammunition employed.

b. Because of the inherent complexity of this type exercise, it is necessary that comprehensive, detailed planning be accomplished between the OIC and the Chief, Range Control. This planning should include, but not be limited to, the following:

(1) Scheme of maneuvering and fire support plans.

(2) Weapons, ammunition, and pyrotechnics to be fired.

(3) Control of weapons and maneuvering elements.

(4) Survey and safety card requirements.

(5) Terrain and facilities desired.

50. Lasers. Lasers will not be operated on Fort Gordon ranges without prior approval of use from ENRMO and Chief, Range Control.

Section VI. Training Areas and Facilities

51. Procedures. The following general policies and procedures apply to the use of training areas and facilities available for unit use on the installation.

a. Training areas and facilities will be scheduled separately. No training area will be signed for without a Unit Environmental Checklist that has been approved by the integrated training area management (ITAM) and ENRMO and proper certification. Only E-7 (SFC) and above will be certified to sign for training areas.

b. Safety is of paramount concern. If any unsafe acts are seen, they will be immediately halted. Speed on all dirt roads is limited to 15 miles per hour. If an adverse weather condition exists, speed will be adjusted accordingly.

c. Digging of entrenchment, preparation of individual righting positions, erection of protective beams and similar activities involving requests for waivers will be forwarded to the Chief, Range Control. If approved, all such improvements will be filled in or leveled, as appropriate, upon termination of training unless otherwise directed by the Chief, Range Control.

d. Stripping of flora by using unit for use in position camouflage, clearing fields of fire, preparation of LZs, etc., is prohibited without specific approval of the Chief, Range Control. Plant material authorized for camouflage is specified in paragraph 16c, this regulation.

e. Preparation and use of slit trenches for the deposition of human waste is prohibited. Units will use permanent portable latrines provided by the DPW or will request some if not available in assigned training area or facility. Movement of portable latrines is prohibited.

f. Dumping of waste POL products, and similar waste is prohibited. All spills regardless of amount will be reported to Range Control immediately upon discovery. Additionally, the spill is to be reported to the Fire Department, 791-4141, if Range Control is not available. See appendix F for environmental protection and spill procedures.

g. Open burning of trash or burning off areas is prohibited.

h. Using units finding a training area or facility in an unsatisfactory state of police or repair will immediately notify the Chief, Range Control and arrange for cleanup and repair. Any unsafe conditions found must be corrected prior to use. Using unit is responsible for police of assigned training area facility during the period in which the area is used by the unit. Unit will contact the Chief, Range Control prior to clearing a training area facility to arrange for a clearance inspection IAW appendix G.

52. Night tactical training exercises.

a. As a minimum, the following safety requirements must be implemented:

(1) Establish sleeping area policies and ensure personnel use only designated and protected areas for sleeping.

(2) Prior to moving a vehicle, require the driver or crew member to walk around and look under the vehicle to ensure no one is endangered by movement of the vehicle.

(3) Require ground guides for all vehicles operating within areas occupied by dismounted personnel. The driver must see ground guides at all times, or the driver will stop the vehicle.

(4) Require two ground guides for all vehicles when backing.

(5) Establish manned dismount points at entrances to assembly bivouac areas and restrict movement of vehicles during hours of darkness in such areas.

(6) Within a tactical position, a minimum of one person must be awake at all times.

(7) Do not sacrifice safety for speed.

(8) The above and other safety practices must be enforced by the chain of command.

b. Vehicle lighting during road marches conducted at night must, above all, provide for the safety of our soldiers. Unit SOPs must specify the conditions under which vehicle lights or night vision devices will be used. Blackout lights may only be used on post after approval of the tactical plan by Range Control, DPTM.

53. Roadblocks. All roadblocks and barriers erected on roads and all barriers established in troop areas (e.g., concertina wire) which will remain in place during hours of darkness or reduces visibility will be marked with reflective tape, white engineer tape, or similar material.

Section VII. Communications with Range Control.

54. Communication requirement. Occupying unit using a range at Fort Gordon must establish and maintain communications with Range Control at all times during use. Hourly radio and/or telephone checks will be made to Range Control. This communication is necessary to ensure maximum safety and complete control of all firing conducted on the reservation.

55. Radio. Range Control operates on radio net frequency 173.5125 megahertz (MHz), and frequency modulated (FM) 42.00 MHz. These nets are operational from 0730 - 1600, Monday through Friday, and anytime ranges are conducted at night or weekends. The portable units are available for use on ranges when telephonic communication cannot be established. Units in the training areas must conduct daily communication checks via FM 42.00 MHz with Range Control.

a. All the firing activities at Fort Gordon will be controlled by FM radio communications. OICs/NCOICs have primary responsibility to ensure that communication equipment is operational and being monitored at all times. The loss of communication with Range Control is a serious matter. The OIC/NCOIC will impose an immediate cease- fire on their unit if communication with Range Control is lost. If radio operators fail to properly monitor the Range Control FM net, Range Control will place the unit under check fire until the OIC/NCOIC can correct the situation. If communications are lost again, the unit will be placed under check fire until permission of the Chief, Range Control is granted. The Chief, Range Control may, at his discretion, deny a unit permission to continue firing. In such cases, the Director, Plans, Training, and Mobilization, DPTM will be notified, as will the unit's major headquarters.

b. The OIC/NCOIC of all firing and non-firing exercises must check in with Range Control upon arrival at the training site, and ensure that constant communication is maintained throughout the exercise.

c. Frequency modulated radio net operation and procedures:

(1) Range Control is the Net Control Station (NCS). The NCS call sign is RANGE CONTROL. This is a directed not requiring all communication to either originate from or directed to RANGE CONTROL. Units conducting firing/non-firing activities will use radio net frequency 173.5125 MHz, or FM 42.00 MHz.

(2) Unit call signs will be the range or firing point number assigned as established by Range Control.

(3) Traffic on all Range Control nets will be limited to the following:

(a) Checking into or out of the net.

(b) Reporting or ordering "Cease Fire".

(c) Lifting of check fire by Range Control.

(d) Reporting to Range Control any incidents, accidents, fires, and malfunctions.

(e) Hourly radio checks to Range Control.

(f) Transmitting warning and control information from Range Control. These broadcasts serve to reassure units of their communications link with Range Control and require no answer.

d. It is strongly recommended that units maintain logs of all communication with Range Control. The log can be used as a reference for any investigations, etc.

e. Units will make every effort to keep the radio free of unnecessary traffic.

(1) Listen before transmitting.

(2) Be brief.

(3) Utilize proper radio procedures.

(4) NOTIFY RANGE CONTROL BEFORE SWITCHING FROM ONE MEANS OF COMMUNICATION TO ANOTHER (e.g., radio to telephone).

56. Telephones. Maintenance of all installed telephones is the responsibility of the Directorate Information Management (DOIM). Only authorized persons will make alterations or repairs to this system. Upon loss of telephone communications, the OIC will order an immediate CEASE-FIRE until communication is re-established either by telephone or radio.

57. Public address system. The using unit of each range is responsible for the proper operation of the address system. Additional speaker systems are available at Range Control, if necessary.

58. Field wire operations.

a. Most of the ranges have telephones available (see appendix B). Some training areas have telephones. Using unit will coordinate with DOIM for use of telephone drops.

b. Installation.

(1) Field wire will not be connected to the range lines until the wire has been laid from the telephone location to the range line drop, and a continuity check has been accomplished with a telephone connected to both ends.

(2) Switchboards WILL NOT be connected to the range lines.

(3) When a unit prepares to depart a range/training area, field wire will be disconnected from the range circuit drop prior to disconnecting the field wire from the telephone. Failure to disconnect from the range circuit drop prior to disconnecting the field wire from the telephone may cause the entire circuit to be shorted out.

(4) Most training areas have a communications network composed of multiple cable systems. This network is not connected to Range Control, and is to be utilized for intra- or inter-unit purposes unless authorized by DOIM. Contact the DOIM for information concerning the cable system. This cable system may never be connected into the above ground wire system.

c. Installation and removal of field wire lines will be accomplished IAW the following operating principles:

(1) Field wire lines must be tagged to indicate the unit designation, firing point/training site, and inclusive dates of use. Wires found to be improperly tagged will be disconnected.

(2) Road crossings will be accomplished as prescribed in Training Circular (TC) 24-20 for parallel or culvert-type crossing.

(3) Wire lines will not be dug in or covered when crossing hard surfaced or improved (gravel) roads.

(4) Overhead crossings, over hard surfaced or improved roads are authorized when the lowest point of the wire is at least 20 feet above the roads.

(5) The laying of field wire in the vicinity of or across aircraft landing strips of staging areas is prohibited.

(6) The utilization of telephone or power poles for field wire laying is prohibited.

59. Artillery control.

a. If a unit desires to have the battalion FDC control the fires of subordinate batteries, the battalion FDC may check in the batteries and handle all communications between Range Control and the battalion. The firing units must monitor the Range Control FM frequency, and the battalion will he responsible for obtaining and recording check-in and checkout codes and other data. A memorandum will be submitted to Range Control in advance of the exercise indicating a desire for "Battalion Control."

b. If the battalion's controlling element fails to perform satisfactorily, the individual batteries will be required to obtain their own check-in and checkout codes.

c. The following information will be required to obtain a wet (firing) or dry (non-firing) check-in code:

(1) Unit identification.

(2) Firing point.

(3) Name and rank of radio telephone operator.

(4) Name and rank of OIC.

(5) Unit phone number (if applicable).

(6) Number and type of weapons.

(7) Number of personnel.

(8) Range Control will copy down this information and reply with a check-in code, check-in time, and the initials of the radio operator. The unit in the field must copy down the check-in code, because they will need it when checking out.

d. The following information will be required when checking out of the range from a wet status:

(1) Unit identification and check-in code.

(2) Number of rounds fired by type.

(3) Charge(s) fired.

(4) Range Control will copy down this information and reply with a checkout code, checkout time, and the initials of the radio operator. It is suggested that units keep this information for at least 1 week.

e. The following will be required to obtain a checkout code from a dry (non-firing) status:

(1) Unit identification.

(2) Check-in code.

Section VII. Training Ammunition

60. General. Training ammunition will be maintained under positive control at all times. Live ammunition will only be used on designated ranges and firing points. All personnel issued and/or handling training ammunition will be familiar with provisions of AR 385-63, AR 190-11, TM 9-1300-206, and FM 5-250 as they pertain to the munitions being used.

61. Forecasting ammunition. Units will use a 12-month moving forecast to maintain an up-to-date projection of monthly ammunition needs that align with planned training events. The forecast will result in an allocation based on available assets. Forecast requirements to the post installation ammunition manager supporting ammunition supply activity correctly to ensure supplies will be available when needed. AR 700-22 is the directive requiring ammunition forecasting, and DA Pam 710-2-1 provides a standard format.

a. Ammunition forecasts are feeder reports for the Worldwide Ammunition Reporting System (WARS) and the forecasts establish minimum 90-day stockage levels at ASPs.

b. Unit training ammunition managers must submit any changes to the 12-month ammunition forecasts for their units in time to meet the 90-day stockage objective. The installation manager will consolidate, submit the 12-month forecast into the WARS report by month for the next 12 months for planning purposes. Always show 12 months of forecasts, even when it requires forecasting into the next fiscal year. This assumes that the next year's authorization will be similar to the current year's authorization.

c. Units may only forecast authorized training ammunition.

d. Do not forecast substitute/secondary Department of Defense identification code (DODIC). Forecast only primary ammunition DODIC.

e. Committee for Ammunition Logistics (CALS)-controlled items require a minimum 120-day forecast to TRADOC from Fort Gordon. Without this minimum lead-time, support cannot be guaranteed. Due to production scheduling and criticality of some CALS-controlled items, a longer forecast period is recommended.

f. Forecast training ammunition at the site of the proposed training (e.g., units going to another installation will forecast to that installation at least 90 days in advance--120 days for CALS items).

g. The installation training ammunition manager will not approve requests in excess of unit forecasts if this would cause a shortfall for another unit that forecasted properly. The installation ammunition manager may support issues to meet emergency, unforecasted requirements on a case-by-case basis after reviewing the asset posture and all other forecasted requirements.

h. Users drawing training ammunition from other than their home installation will comply with the installation's forecasting and logistics policies. The Fort Gordon ammunition manager must verify that the user forecasts only authorized ammunition.

i. When forwarding monthly WARS to Headquarters, United States Training and Doctrine Command (HQ TRADOC), the Fort Gordon training ammunition manager will verify that forecasted quantities support all training plans, unit authorizations, and scheduled institutional training.

j. Ammunition forecasts do not carry over to the next month if the requester does not draw the ammunition. The requester must resubmit the forecast through the installation training ammunition manager.

62. Training Ammunition Management Information System (TAMIS). Annual training ammunition authorizations correspond to units/activities by unit identification code (UIC) using the Training Ammunition Management Information System (TAMIS). Fort Gordon uses the same system to report expenditures and summarize training ammunition use. Headquarters, Department of the Army (HQDA) gives TRADOC a bulk training ammunition authorization approximately 6 months prior to the start of a fiscal year, which TRADOC subauthorizes to subordinate installations and activities. Fort Gordon bases this authorization distribution upon stated requirements, available quantities, and training priority. Recipients further subauthorize to training activities, and they may submit increase requests, with impact statements, for quantities that are not sufficient to support training. TRADOC will adjust authorizations and provide revisions before the start of the fiscal year. Due to production or procurement problems, some ammunition may not be available.

63. Ammunition authorization procedures. During the fiscal year, training brigades may request authorization changes from their support major command (MACOM). Fort Gordon supports these change requests as much as possible.

a. Units will use long-range requirements reported to their MACOM to establish individual fiscal year requirements.

b. The MACOMs issue initial installation authorizations approximately 4 months prior to the start of a fiscal year. This allows time for unit training ammunition managers to review and update their requirements and to request, with training impact justification, additional authorizations.

c. The MACOMs satisfy training ammunition authorization shortfalls when possible by redistribution of authorizations, identification of substitute items, or acquiring additional authorizations from HQDA.

d. Throughout the fiscal year, the Fort Gordon ammunition manager will attempt to satisfy unresolved authorization shortages when training ammunition authorizations change with the training units MACOM.

e. Units may request authorization changes to their MACOM by using the following format (show installation totals only) example:

DODIC	Current Auth	Plus/minus	Required
A071	50,000	+25,000	75,000

JUSTIFICATION: Approved POI change added 10 rounds per 11B10 OSUT student.

f. MACOMs approve training ammunition authorization changes in writing or by the TAMIS Program.

g. MACOMs/Installation training ammunition managers may adjust subauthorizations between units under their control, with the following exceptions:

(1) Do not exceed installation training ammunition authorizations.

(2) Do not exchange authorizations between units of different MACOMs.

64. Approval. The Fort Gordon training ammunition managers must use TAMIS to validate training ammunition requests before approving any issues.

a. Each user must have forecasted training ammunition use, and they may not exceed their authorization.

b. Before a request for issue of training ammunition (DA Form 581) is presented to the installation ASP, the Fort Gordon training ammunition manager must validate or approve it.

c. TAMIS provides several options for authenticating subauthorizations, and installation training ammunition managers should not approve training ammunition requests unless supported by TAMIS authorizations. However, the Fort Gordon ammunition managers must take all steps to verify the unit's authorization before stopping training. Recommended procedures are:

(1) Contact the unit's higher headquarters.

(2) Use authorized substitute munitions.

(3) Request TRADOC assistance.

65. Reconciliation.

a. Reconciliation is the process of assuring accountability for all issues of ammunition through the:

(1) Return of unused serviceable and unserviceable ammunition.

(2) Return of expended brass, pins, links, ammunition packing material, and other salvage items.

(3) Verification by the ASP that the returned items account for the ammunition issued, as per DA Pam 710-2-1.

b. Units will account for all expended ammunition packing material, residue, and brass. The ASP must provide supported units a copy of the residue (casings, links, pins, etc.) that they must return at the completion of training.

c. In the event of any overages or lost, stolen, or missing ammunition, initiate administrative action per AR 735-5. In the case of lost, stolen, or unaccounted for sensitive items, AR 190-11 or AR 15-6, may require additional action.

d. DA Pam 710-2-1 provides for small arms and pyrotechnic residue, which cannot be completely recovered due to range, terrain, or climatic conditions. This does not preclude the return of all outside packaging (wire bound boxes, metal cans, etc.) nor relieve the commander/range officer from direct responsibility.

e. Units will identify on all turn-in documents the document number and training event code (TEC) used for the ammunition issue.

f. Unit training ammunition POC will reconcile each training ammunition issue.

g. Units will contact the ASP at 706-791-3576 to coordinate a turn-in date and time.

h. Units failing to accomplish reconciliation will not be allowed to request ammunition until the prior DA Form 581 is cleared by the ASP. If unit's DA Form 581 is not cleared at least 5 working days after unit's training is completed, the ASP will contact the unit.

66. Reserve Component ammunition forecasting.

a. State Adjutants General and major Army Reserve commands submit by 1 August prior to the new fiscal year, annual forecasts to the Fort Gordon installation ammunition manager. This forecast should be by month for a full 12-month period (October-September). The forecast must agree with TAMIS authorizations. It may be necessary to fill out multiple forecasts for units training at more than one installation (i.e., annual training (AT) site, site support installation).

b. Another forecast for a 12-month period is submitted when changes occur.

c. Ammunition forecasts will also be a major topic at pre-camp conferences to discuss actual training planned, training facilities availability, and anticipated AT attendance. Forecasts will be updated as required based on results of the pre-camp conference and forwarded to the Fort Gordon ammunition manager.

d. Adjustments to forecasted requirements will be submitted as they occur, but major adjustments should be made not less than 60 days before scheduled training. Short-term major

adjustments normally do not provide enough time for the ammunition logistical system to respond.

e. State Adjutants General and major Army Reserve commands forward actual total requirements on a DA Form 581 to the Fort Gordon ammunition manager to arrive 60 days before units are scheduled to arrive for training.

f. The ASP will support reserve requirements to the maximum extent practicable. This support will include extended daily and weekend hours for receipt and turn-in of live ammunition and residue. Coordination will be made by the unit with the ASP.

67. Storage.

a. Storage of ammunition, including quantity distance and compatibility storage requirements, will be IAW AR 385-64, TM 9-1300-206, and this regulation. Where operation of a temporary field ammunition supply point at an installation is necessary to meet training requirements, the storage regulations outlined in TM 9-1300-206, chapter 4, section II, will be observed. Quantity distance standards will be applied when determining required distances between "Field Storage Units" (FSU) in a field ASP and external exposed sites (e.g., inhabited buildings, public traffic routes, turn-in operations, surveillance/inspection operations, ranges, firing points). Each FSU is to be considered as a single above ground storage site when determining these external distance requirements. Installation quality assurance specialist ammunition supply (QASAS) and Signal Branch Safety Office personnel will review and approve all temporary field ASP site plans prior to authorizing operations.

b. Observe the following procedures for efficient storage management:

(1) Use properly trained ammunition personnel.

(2) Preplan storage as outlined in AR 385-64. Explosive storage license requirements and procedures are outlined in AR 385-64.

68. Issue.

a. Individuals signing for ammunition must be listed on a valid DA Form 1687 (Notice of Delegation of Authority - Receipt for Supplies) maintained on file at the ASP. Delegation of authority will be approved with unit commander's signature on DA Form 1687. Ammunition will be issued to authorized personnel upon presentation of a properly prepared DA Form 581 which includes the TAMIS codes required by AR 5-13, appendix B. The State Adjutant General (USPFO) or major U.S. Army Reserve Command (MUSARC) must validate DA Form 581 for ARNG and USAR, respectively. DA Pam 710-2-l and AR 190-11, paragraph 7-10b, specify individuals that may be authorized to sign for security category II ammunition.

b. Ammunition lot numbers will be recorded on DA Form 581 after review of surveillance records and stock record lot cards. Cite restrictions applicable to ammunition lots issued on DA Form 581. Affected lots will be identified as either "cleared for overhead fire" or "not suitable for overhead fire" IAW TB 9-1300-385, appendixes C and D. Unserviceable/suspended ammunition will not be issued.

c. The receiving unit supply officer or authorized representative will sign the request for issue and turn-in of ammunition verifying lots and amount received. The original voucher showing lot numbers will be filed at the installation ammunition supply activity.

d. When ammunition is issued for training, the issuing activity will provide customer units with a list of residue to turn in after completion of their exercise.

e. Any restrictions on ammunition issued will be clearly annotated on all copies of the DA Form 581 and brought to the attention of the unit representative receiving the ammunition.

69. Turn-ins. To facilitate turn-ins and preserve ammunition quality and lot integrity, using units will keep ammunition in its original package prior to use. Unpacking and leaving ammunition exposed to the elements cause deterioration, which may adversely affect functional and physical characteristics of the items and make turn-in more difficult.

a. Upon completion of firing, the unit returns all unused ammunition, fired ammunition cartridge cases, packing components, containers, and other items (see DA Pam 710-2-1, appendix L) required by the support or training installation to the applicable property officer who will account for all rounds issued by making a check of rounds previously issued against turn-ins. Each unit or activity turning in the above items will show the original issue document number on DA Form 581, block 11. Ammunition for on-post training must be reconciled within 5 days of completion of training. ROTC units may turn in/reconcile training ammunition every 90 days when training off post. Failure to reconcile previous training issues may cause denials of future training issues until the reconciliation is accomplished.

b. Use a receiving and inspection building or a location at proper quantity distance to receive unit turn-ins. Only ammunition identified as not being removed from the original sealed overpack will be returned to the storage magazine without an inspection (conduct damage in transit inspections). A QASAS, or an appointed representative, will inspect 100 percent of the ammunition in packages with broken seals on the outer pack or other evidence of the outer containers having been opened or damaged to the point that the condition of contents could be affected. This inspection will determine serviceability of the materiel before returning it to storage. The items, which can be made serviceable by minor package repair or reassembly, shall be returned to storage after the required repairs. The condition code of the returned ammunition will be annotated on DA Form 3151-R (Ammunition Stores Slip), or local documents. The QASAS or designated representative will be responsible. Condition code entries will be legibly signed or initialed.

c. Units turning in ammunition will show national stock number (NSN), nomenclature, lot number, and quantity on the turn-in document.

d. Add the serviceable quantity returned to the balance on stock records. Unserviceable quantities shall be separately annotated and disposition determined or requested by ammunition surveillance.

e. A unit turning in unserviceable ammunition will include a statement on the DA Form 581 explaining the reason for unserviceability. The ammunition will be inspected, the serviceability status verified, and the condition code assigned by the QASAS or designated representative. Normally, the results of the inspection will be annotated on DA Form 3022-R (Army Depot

Surveillance Record). When neglect or misuse is evident, a DA Form 4697 (Department of the Army Report of Survey) or other action may be required IAW AR 735-5. Unit commanders will be notified when neglect or misuse of ammunition is identified.

f. Suspended and unserviceable ammunition will be returned to the ammunition storage activity for appropriate disposition. The local explosive ordnance disposal unit will be notified when a potentially dangerous condition exists.

g. Units use a separate DA Form 581 for turn in of residue. All residue items should be turned in to the ASP for disposal; units should not dispose of residue.

(1) The turn-in document will be marked: "Contents have been inspected. They do not contain any live rounds, unfired primers, explosives, or other dangerous material." The unit representative performing the inspection prior to delivery to the storage activity will sign this statement. An officer, warrant officer, or senior noncommissioned officer (NCO) designated in writing by the unit commander, should make this inspection.

(2) Visually inspect ammunition residue turned in as empty 100 percent with the assistance of the unit personnel making the turn-in. The unit must provide personnel to expeditiously open and reassemble containers and provide support to inspectors. Immediately prior to shipment to the Defense Reutilization and Marketing Office, depot, landfill, or any other release of residue, a designated technically qualified individual will conduct a 100 percent inspection and certify "The item (or items) listed hereon have been inspected by me and contain no items of a dangerous or hazardous nature." The QASAS or designated representative shall verify the absence of explosives, ammunition, and ammunition components using a sampling inspection IAW SB 742-1, paragraph 11-7.

(3) Follow the instructions in DOD Manual 4160.21-M, chapter VI, paragraph 37, for certification of fired small arms cartridge cases.

h. The ASPs are encouraged to maintain hours of operation that will accommodate unit turn-ins. Every effort must be made by units to reduce turn-in time by proper preparation of turn-in documents, providing sufficient personnel to handle ammunition and residue turn-ins, and ensuring all items turned in are properly assembled and completely packaged. Ensuring seals on containers of unused ammunition are not broken can expedite an ammunition turn-in; however, expenditures in excess of training requirements to avoid repackaging ammunition or reduce turn-in time are not authorized.

i. The ASP will separate material to be processed from material that has been subjected to 100 percent inspection and certified free of explosives.

70. Ammunition stored in unit areas.

a. Ammunition, which may be stored in unit arms rooms, is limited to items authorized by AR 385-64, tables 9-6, 9-10, and 9-11 when unit operations require immediate access to ammunition in order to perform daily no training mission requirements. Limit quantities of class/division 1.4 items stored in arms rooms (e.g., MP, security guard forces) to quantity necessary to meet one-day operational requirements. Do not store class/division 1.4 items in training unit arms rooms. Within these limitations, unit commanders responsible for each

respective arms room facility must maintain their written command authorization for storage of ammunition, by type and quantity, on file as required by TM 9-1300-206, paragraph 4-1a.

b. Unit commanders storing ammunition in arms rooms are responsible for ensuring ammunition is stored and handled IAW current DOD and DA safety regulations. Proper fire symbols and chemical hazard symbols must be displayed on all buildings where ammunition is stored. Commanders must ensure ammunition stored in arms rooms is serviceable and not suspended or restricted in a way that would preclude its use in completing the intended mission. For assistance, units will contact local supporting quality assurance specialist (ammunition surveillance) or ASP.

71. Unit junior officers/senior NCOs. Soldiers will be trained in range operations, ammunition accountability, and be familiar with their assigned duties to properly inspect and ensure control, use, and accountability of ammunition.

72. Ammunition Amnesty Program

a. Program policy. This program has a no questions asked policy. The Fort Gordon ammunition amnesty program provides a no intimidating atmosphere for soldiers or civilians to freely turn in ammunition improperly in their possession. To maintain this atmosphere and encourage use of the amnesty program, do not ask personal identification questions (name, address, unit). Questions about how they obtained the ammunition may be asked so that ammunition control can be improved. Ammunition amnesty program users are not required to answer such questions. No attempt should be made to prosecute individuals using the amnesty program since that will discourage use by others in the future.

b. Turn-in procedures. This ammunition amnesty program has multiple turn-in procedures and locations. One of the locations is Range Control. During duty hours, call Range Control at 706-791-5005/5008 or DSN 780-3576.

(1) ASP. The ASP is designated amnesty turn-in point. The ASP has the knowledgeable personnel and appropriate facilities to be your most effective turn-in point. The phone number for the ASP is 706-791-3576 and DSN 780-3576.

(2) Military Police (MP). The MP station can be designated to accept amnesty turn-ins provided they are trained to recognize hazardous items and instructed in what to do after taking possession of the ammunition. MP stations are potential sites for 24-hour a day turn-ins. The number for the MP desk is 706-791-4380. The MP desk will notify Range Control to determine the course of action to take.

(3) Amnesty boxes. Amnesty boxes are prohibited unless they meet quantity distance (QD) and explosive safety requirements for all classes of ammunition. When used, the `boxes" must be configured to notify trained personnel immediately when items are placed in the box. Personnel will respond and remove the item(s) to prevent accumulation of ammunition in the amnesty box.

(4) Chain of command. Soldiers have the option to turn in amnesty ammunition through their chain of command without fear of reprisal. The command chain must know how to return amnesty ammunition to the ASP.

c. Records. Either EOD/Range Control or the ASP will ultimately receive all amnesty turn-ins. Records should be kept on the items, quantity, date, lot number, and condition of ammunition recovered through the amnesty program. EOD will destroy any item determined to be hazardous. Any item not in hazardous condition will be inspected, picked up on records at the ASP, and returned to stock for issue if positively determined to be serviceable. The ASP will take required action for unserviceable ammunition.

d. Quarterly briefings. Company commanders will brief personnel at least quarterly on the ammunition amnesty program. Maintain records of these briefings.

73. Ammunition found on post. All ammunition found on post (AFOP) may be turned in through the ammunition amnesty program. When ammunition is actually found on post (or off post when coordinated with local authorities), EOD should be notified and respond to recover the item. EOD will determine when recovered ammunition is hazardous and must be destroyed and when it can be safely returned to the supply system at the ASP. Any questions pertaining to ammunition, contact the Fort Gordon Ammunition Manager, 706-791-5005/5008.

74. Blank training ammunition.

a. Blank adapters will be used on all weapons for which an adapter is available.

b. Blank ammunition will be inspected by OIC prior to issue for serviceability and to ensure that ball ammunition has not been intermixed. In no case will blanks and live ammunition be stored or transported in the same container or vehicle.

c. Small arms blank ammunition will not be fired at personnel at distances less than 20 meters.

d. All blanks issued to troops will be accounted for at the termination of training and all brass collected and returned to the ASP.

75. Pyrotechnics and explosive training simulators. Pyrotechnics and explosive training simulators will be maintained under positive control at all times. Numerous fires are caused annually due to mishandling of pyrotechnics and disregard of subparagraphs a through e, below.

a. Approval must be granted by Range Control prior to use of any pyrotechnics devices. Permission to use pyrotechnics must be requested daily through Range Control. Permission is granted based on the current fire danger category and recommendations from Signal Branch Safety Office, Forestry, and Fort Gordon Fire Department.

b. Use of pyrotechnics is prohibited during periods when the fire danger is at category 3, 4, or 5. Permission to use pyrotechnics may be granted during a category 3 fire danger classification only with detailed coordination with Range Control. Fire category 4 is a high risk activity, tracer fire must be approved by the Commanding General of Fort Gordon. Fire category 5 is an extremely high-risk activity and requires the approval of the Commanding General, TRADOC.

c. All explosive simulators (e.g., booby traps, practices, mines, etc.) will be removed from the training areas upon termination of training.

d. Unexploded pyrotechnics will be handled according to AR 385-63, chapter 18.

e. Units using pyrotechnics without permission will be reported directly to Director, DPTM. Training utilizing pyrotechnics will cease. The Chief, Range Control will submit a request to the DPTM that the OIC of the unit be decertified for a minimum of 90 days.

76. Smoke and chlorobenzalmalononitrile (tear gas)(CS) grenades. Smoke and CS grenades may be used subject to the following:

a. Restrictions specified in paragraph 75, above, for pyrotechnics apply. Used and unused smoke pots and grenades will be turned in to ASP upon completion of training for disposal.

b. Chief, Range Control will be notified prior to use of CS.

c. All effects of CS will remain on the installation.

d. Location and wind conditions must be considered in order to control the agent from crossing improved roads, cantonment areas, or reservation boundaries. In no case, will CS be allowed to cross into the areas listed above.

e. When using CS, all personnel likely to encounter the agent will have a serviceable protective mask available for their use.

77. Field ammunition storage.

a. References.

(1) TM 9-1300-206.

(2) TM 9-1300-250.

(3) FM 5-250.

b. A field ammunition storage (FAS) site has been constructed adjacent to Range Control for the use of visiting units. The FAS may be scheduled for use through Range Control. Requirements of subparagraph d, below apply. Storage of ammunition on any range is prohibited.

c. Using units must coordinate with the Chief, Range Control, prior to storing ammunition on a field site. A written request must be submitted to Range Control to establish a field ASP.

d. The minimum requirements for establishing a field ASP are as follows:

(1) Ammunition must be stacked on pallets or dunnage and separated by type and lot number. Ammunition will be covered by tarps.

(2) Two strands of concertina wire must surround the ASP. The wire will be outlined with engineer tape or white reflective tape.

(3) At least two class 2A (10 BC) rated portable fire extinguishers will be provided at the field ASP.

(4) Two roving guards with weapons and loaded magazines (NOT IN WEAPON) will conduct continuous patrolling of the ammunition supply point. Guards will have operable flashlights, an access roster, and a means of summoning assistance.

(5) The location of any field ASP will be determined by the Chief, Range Control.

(6) Distances between explosives, roads, buildings, and troops in the open will be computed with cooperation from the Signal Branch Safety Office, Post ASP, and the Chief, Range Control. Ammunition stored in vehicles (e.g., 155mm artillery) will be separated by at least 100 feet (see TM 9-1300-206).

e. Using unit commander is responsible for the safety and security of the field ASP.

f. Using unit commander is responsible for communication with the guards at the ASP.

g. Using unit commander is responsible for posting of access at the ASP.

h. See AR 190-11 for further guidance.

Section IX. Helicopter Operations

78. Helicopter operations procedures. Pilots conducting helicopter operations or training on the Fort Gordon Military Reservation will use the following guidance:

a. Comply with operating and safety requirements specified in appendix H of this regulation.

b. Prior to conducting operations on the reservation, the pilot in command or unit operations personnel will:

(1) Check notice to airman for notice of activation of restricted areas R-3004.

(2) Contact Range Control on 42.00 FM or ultra high frequency (UHF) 356.450 prior to entering installation boundaries.

(3) Contact Range Control by phone (791-3842/5005) to verify notice to airman, reason for notice to airman, and intent to conduct operations within the restricted areas. If R-3004 is inactive, no further action is required.

c. While operating within activated R-3004, comply with the following:

(1) Artillery firing. Range Control or artillery unit will provide location of active/scheduled firing points. Operations within 500 meters of an active firing point along the gun target line prohibited.

(2) Remain outside artillery impact area and/or other areas as directed by the Chief, Range control.

(3) Monitor Air Force frequency 356.450 (UHF).

Section X. Air-to-Ground Operations

79. Air-to-ground operations. For air-to-ground procedures, operations, and scheduling, see appendix I of this regulation.

Section XI. Accident/incident Plan

80. Accidents.

a. In case of an accident involving the use of a weapon or ammunition, the OIC of the range or safety officer will:

(1) Call an immediate CEASE- FIRE on the range.

(2) Call Range Control at 791-5005/5008. Use FM radio frequency 42.00 or Motorola radio to contact Range Control if no phone is available. Range Control will notify DDEAMC if ambulance support is needed.

(3) Care for the injured.

(4) Notify Range Control and furnish the following information:

(a) Is an ambulance required?

(b) Range, training area, grid location.

(c) Type of injury.

(d) Name of the individual(s) involved.

(e) Rank.

(f) Social security number.

(g) Unit assigned.

(h) Time.

(i) Place.

(j) Circumstance.

(k) Condition of the injured.

(5) After duty hours contact CDO (791-4517/791-4518).

Note: Range Control is operational Monday-Friday, 0730-1600, and when live firing is conducted. If no ranges are operational on weekends/holidays, Range Control will be closed. If no phone is available to call ambulance, transport injured soldier immediately to hospital.

(6) Weapon and unexpended ammunition will not be moved until an investigation is made by the Chief, Range Control.

(7) Ensure all firing data set on weapon remains unchanged (if applicable).

(8) Follow Range Control instructions concerning continuation of firing.

(9) Submit DA Form 285 (Accident Report) through command channels to the Signal Branch Safety Office.

(10) Range Control notifies DPS if serious incident report is requested.

b. Malfunctions/Misfires.

(1) Malfunctions/misfires must be handled correctly.

(2) OIC/NCOIC must be knowledgeable of misfire procedures for appropriate weapon system. Time is of essence.

(3) At a minimum, keep weapon up and down range, evacuate. Follow misfire procedures as outlined in appropriate weapons manual. If these steps fail to correct the malfunction, firing will be suspended and the Chief, Range Control notified.

(4) Misfires should be returned to the post ammunition depot upon completion of firing.

(5) Malfunctions/misfires are a unit responsibility, not Range Control.

(6) Follow instructions of the Chief, Range Control concerning continuation of firing.

c. The Chief, Range Control, will:

(1) If the extent of the injury requires medical evacuation, dispatch the nearest ambulance to the scene of the accident or malfunction.

(2) Notify the Chief, Plans, Operations, and Training Division, DPTM and Signal Branch Safety Office in the event of an accident/ malfunction relaying the information above.

(3) Notify the unit commander concerned.

(4) Notify the Ammunition Section and the Maintenance Officer, DPW, in the event of a malfunction.

81. Action to be taken upon report of missing person(s).

a. Any individual discovering a person missing notifies the OIC or NCOIC.

b. Any individual on site takes the following actions, in the listed:

(1) Call Range Control or CDO during non-duty hours giving his exact location and furnishing the following information:

(a) Name, rank, social security number of individual missing.

(b) Unit of assignment.

(c) Time and date person(s) was/were discovered to be missing.

(d) Circumstances.

(2) Inform the commanding officer of the unit concerned.

(3) Organize search parties consisting of a minimum of five persons each including an NCOIC. Two-way radios may be obtained at Range Control. The number of search parties should be limited to the number of radios available.

(4) Set up roving patrols using as many vehicles and persons as necessary. Under no circumstances will roving patrols leave the main route of travel to enter an impact area without approval of Range Control.

(5) Hold a muster after the missing person(s) has/have been found and all search parties have returned. Upon determination that all persons are present and accounted for notify Range Control/CDO.

c. During the conduct of the search, the individual in charge will:

(1) Maintain radio contact with each patrol.

(2) Keep Range Control posted as to the progress of the search.

d. Upon being notified that a person(s) is/are missing, the Chief, Range Control:

(1) Orders an immediate CEASE-FIRE on all ranges involved.

(2) Notifies the following:

(a) Chief, Plans, Operations, and Training Division.

(b) Director, Plans, Operations, Training, and Mobilization (DPTM)

(c) Desk Sergeant, DPS.

(d) Chief, Signal Branch Safety Office.

(e) Upon notification that the missing person(s) has/have been found and that all search parties are physically accounted for, the Chief, Range Control will lift the CEASE-FIRE on ranges involved.

RELEASE AND HOLD HARMLESS AGREEMENT

The undersigned is aware of the provisions as follows:
In consideration of receiving permission from the United States Army to view firing on ranges at the Fort Gordon Military Reservation, the receipt of such permission being hereby acknowledged, I hereby release the United States Government, its agents, officers, servants and employees, from any and all liability, claims, demands, actions, and causes of action whatsoever, arising out of or related to any loss, damage, or injury, including death, that may occur from any cause during participation at Fort Gordon Military Reservation. Furthermore, I will indemnity the United States Government, its agents, officers, servants, and employees and save it or them harmless from and against any and all claims, actions, damages, liabilities, and expenses in connection with loss of life, personal injury, and/or damages to property arising from and out of any occurrence in, upon, or at ranges including the parking lot of any property adjoining ranges occasioned wholly or in part by any of my actions or omissions. In the event the United States Government, its agents, officers, servants, and/or employees shall without fault on it or their part be made a party to any litigation commenced by or against the signee. The signee shall protect and hold the United States Government, its agents, officers, employees, and/or servants harmless and shall pay all costs, expenses, and reasonable attorney's fees incurred or paid by the United States Government, its agents, officers, servants and/or employees in connection with such litigation.

Figure 1. Sample of Release and Hold Harmless Agreement

APPENDIX A

REFERENCES

Section I.
Required Publications.

AR 5-13
Training Ammunition Management System

AR 15-6
Procedures for Investigating Officers and Boards of Officers

AR 40-5
Preventive Medicine

AR 95-2
Air Traffic Control, Airspace, Airfields, Flight Activities and Navigation Aids

AR 190-11
Physical Security of Arms, Ammunition and Explosives

AR 200-1
Environmental Protection and Enhancement

AR 385-62
Regulations for Firing Guided Missiles and Heavy Rockets for Training, Target Practice and Combat

AR 385-63
Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat

AR 385-64
U.S. Army Explosives Safety Program

AR 700-22
Worldwide Ammunition Reporting System (WARS)

AR 735-5
Policies and Procedures for Property Accountability

DA Pam 710-2-1
Using Unit Supply System

DOD 4160.21-M
Defense Materiel Disposition Manual

FM 5-250
Explosives and Demolitions

FM 6-50
Tactics, Techniques, and Procedures for the Field Artillery Cannon Battery

FM 23-8
M14 and M14A1 Rifles and Rifle Marksmanship

FM 23-9
M16A1 Rifle and M16A2 Rifle Marksmanship

FM 23-23
Antipersonnel Mine M18A1 and M18 (Claymore)

FM 23-31
40-MM Grenade Launcher, M203

FM 23-33
60-MM Heat Rocket, M72A1, M72A2 (Light Antitank Weapon)

FM 23-35
Combat Training with Pistols and Revolvers

FM 23-67
Machine Gun, 7.62MM, M60

FM 25-4
How to Conduct Training Exercises

SB 742-1
Inspection of Supplies and Equipment

TB 9-1300-385
Munitions Restricted or Suspended

TC 23-14
Sniper Training and Employment

TC 57-1
The Jumpmaster

TM 9-1300-206
Ammunition and Explosives Standards

TM 9-1300-250
Ammunition Maintenance

USASC&FG Reg 420-5
Hunting, Fishing, Trapping, and Horseback Riding Regulations

USASC&FG Reg 420-7
Endangered Species Regulation

Section II
Related publications

AR 95-1
Flight Regulations

AR 200-2
Environmental Effects of Army Actions

AR 210-21
Army Ranges and Training Land Program

AR 350-1
Army Training

AR 350-6
Army-Wide Small Arms Competitive Marksmanship

AR 385-10
The Army Safety Program

AR 385-16
System Safety Engineering and Management

AR 385-30
Safety Color Code Markings and Signs

AR 385-40
Accident Reporting and Records

AR 385-61
The Army Chemical Agents Safety Program

AR 420-74
Natural Resources: Land, Forest, and Wildlife Management

FM 21-11
First Aid for Soldiers

FM 22-6
Guard Duty

FM 23-11
90-MM Recoilless Rifle, M67

FM 23-30
Grenade and Pyrotechnic Signals

FM 34-64
Electronic Security (ELSEC) Techniques

TC 24-20
Tactical Wire and Cable Techniques

TC 25-1
Training Land

TM 9-1300-214
Military Explosives

USASC&FG Reg 210-22
Facilities Engineering Services and Supplies

Section III
Prescribed Form

FG Form 6729-R-E
Range Safety Certification

Section IV
Related Forms

DA Form 285
U.S. Army Accident Report

DA Form 581
Request or Issue and Turn-In of Ammunition

DA Form 1045
Army Ideas for Excellence Program (AIEP) Proposal

DA Form 1687
Notice of Delegation of Authority-Receipt for Supplies

DA Form 2028
Recommended Changes to Publications and Blank Forms

DA Form 3022-R
Army Surveillance Record

DA Form 3151-R
Ammunition Stores Slip

DA Form 4697
Department of the Army Report of Survey

APPENDIX B

AVAILABLE RANGES AND CHARACTERISTICS

B-1. RANGE 1

Range Characteristics:

a. Type: 25-Meter Zero.

b. Firing Points: 110.

c. Weapon/Ammo Used: M-16/5.56mm.

d. Control Tower: Yes.

e. Bleachers: 1/120 Man Set.

f. Outlets: 1.

g. Facilities: (See special notes, subparagraph m below).

h. Communications: Telephone/Radio.

i. Targets: 25 Meter. Zero.

j. Lights: No.

k. Mess Area: No.

l. Ammo Point: 1.

m. Special Notes:

(1) Portable toilets/range house.

(2) Good visual aids.

n. Tracer fire not authorized.

B-2. RANGE 2

Range Characteristics:

a. Type: Alternate Pistol Qualification Course

b. Firing Points: 24.

c. Weapons/Ammo Used: .22, 32, 357, 41, and.45 cal and 9mm.

d. Control Tower: No.

e. Bleachers: 1.

f. Outlets: 2.

g. Facilities: 1 range house/1 portable toilet.

h. Communication: Portable radio/telephone.

i. Targets: Pistol qualification silhouette target.

j. Lights: No.

k. Primary User: Not applicable.

l. Mess Area: No.

m. Ammo Points: 1 ammo table.

n. Tracer fire not authorized.

o. Special Note: Conduct of Range tables I, II, III, and IV, for the pistol may be fired on this range and the Standard American type target used for training and completion firing only will be used.

p. Safety Precautions:

(1) Before personnel proceed forward of the firing line, weapons will be unloaded and placed upon the pistol stand with bolts open and slides back.

(2) Additional safety instructions pertinent to the firing of the pistol are listed in FM 23-35, paragraphs 24 and 106.

B-3. RANGE 4

Range Characteristics:

a. Type: Known Distance (Rifle Marksmanship Range).

b. Firing Points: 55.

c. Weapons/Ammo Used: M-14/M-16 7.62 and 5.56mm or.22 cal with/sub-cal device.

d. Control Tower: No.

e. Bleachers:0.

f. Outlets: No.

g. Facilities: 1 portable toilet.

h. Communications: portable radio.

i. Targets: Known Distance Type.

j. Lights: No.

k. Primary User: Special Reaction Team and National Marksmanship Competition

l. Mess Area: No.

m. Ammo Points: No.

n. Special Notes:

(1) 6-Firing Berms.

(2) Range Control will furnish bullhorn.

(3) Unit must furnish FM communication for target pit.

(4) Known Distance Range has 20 targets with firing lines at 200, 300, 400, 500, 600, and 1,000 meters.

o. Rifle and Sniper Marksmanship Training:

(1) References.

(a) FM 23-8.

(b) FM 23-9.

(2) Safety Precautions:

(a) Pit personnel "will wear Kevlar helmets."

(b) Safety precautions listed in above references are applicable during firing.

(c) Personnel will not proceed forward of the firing line until all weapons have been cleared, weapons placed on the firing point or in racks with the bolts open.

(d) Under no circumstances will personnel go downrange. Equipment such as public address systems and vehicles required in the pit area will be pulled in as close to the target line as possible.

(e) Personnel will not climb on target frames or carriers for any reason, while firing is in progress. If a target jams and it is necessary to continue using it, the pit officer will request the OIC of the firing line to impose a check-fire until the difficulty is corrected.

(f) When firing the 500-, 600-, and 1,000-meter lines, the occupying unit will control traffic on the road between Ranges 4 and 5. Traffic will not be allowed to pass when firing is in progress.

(g) If a weapon fails to fire and the weapon can be cocked without opening the bolt, cock and make one additional attempt to fire. If the weapon still fails to fire, wait 10 seconds before opening the bolt to remove the round. If the weapon CANNOT BE RECOCKED without opening the bolt and extracting the round, wait10 seconds from the failure to fire before actuating the bolt to remove the round. The safety officer or the OIC of firing will immediately make a physical check of the weapon that malfunctioned to ascertain that the bore is clear before allowing the firer to continue firing.

B-4. RANGE 6
Range Characteristics:

a. Type: Record Fire (IRETS).

b. Firing Points: 10.

c. Weapons/Ammo Used: M-16/5.56 mm.

d. Control Tower: Yes.

e. Bleachers: 4/120 Man Set.

f. Outlets: Yes.

g. Facilities: 1 range house/range training complex, 2 portable toilets.

h. Communication: Telephone/radio.

i. Targets: Electrical M62

j. Lights: Yes.

k. Primary User: Active Duty/Reserve Components.

l. Mess Area: Yes.

m. Ammo Point: 1.

B-5. RANGE 7
Range Characteristics:

a. Type: 25 meter Zero.

b. Firing Points: 20.

c. Weapons/Amino Used: M16 5.56mm.

d. Control Tower: Yes.

e. Bleachers: 2/120 Man Sets.

f. Outlets: Yes.

g. Facilities: 1range house/2 portable toilets.

h. Communications: Radio.

i. Targets: 25 meter Zero.

j. Lights: No.

k. Primary User: Not applicable.

l. Mess Area: No.

m. Ammo Point: 1.

n. Tracer fire not authorized.

B-6. RANGE 8
Range Characteristics:

a. Type: 25-Meter Zero.

b. Firing Points: 32.

c. Weapons/Ammo Used: M-16/5.56mm.

d. Control Tower: Yes.

e. Bleachers: 2/120 Man Sets.

f. Outlets: Yes.

g. Facilities: 1range house/2 portable toilets.

h. Communications: Telephone/radio.

i. Targets: 25 Meter Zero.

j. Lights: No.

k. Primary User: Not applicable

l. Mess Area: No

m. Ammo Points: 1.

n. Tracer fire not authorized.

B-7. RANGE 9

Range Characteristics:

a. Type: Record Fire (RETS).

b. Firing Points: 16.

c. Weapons/Ammo Used: M-16/5.56

d. Control Tower: Yes.

e. Bleachers: 1/120 Man Sets.

f. Outlets: Yes.

g. Facilities: 1 range house/2 portable toilets.

h. Communications: Telephone/radio.

i. Targets: M31Al.

j. Lights: No.

k. Primary User: Not applicable.

l. Mess Area: No.

m. Ammo Points: 1

n. Tracer fire authorized.

B-8. RANGE 10
Range Characteristics:

a. Type: Military Police Skill and Alternate Pistol Qualification Course.

b. Firing Points: 10.

c. Weapons/Ammo Used: 45, 9mm, and 12 Gauge Shotgun. Ammo: .45 cal, 12 Gauge Buckshot/Slugs.

d. Control Tower: No.

e. Bleachers: 1.

f. Outlets: Yes.

g. Facilities: 1 portable toilet.

h. Communication: Telephone/radio.

i. Targets: M31A1

j. Lights: No

k. Primary User: Not applicable.

l. Mess Area: No.

m. Ammo Point: 1

n. Tracer fire not authorized.

o. Special Notes:

(1) Public address system or bullhorn may be signed for at Range Control.

(2) Range 10 is a multipurpose range which allows for the firing of the **.**45 cal, 9mm pistol, and riot shotgun.

(3) Before personnel can proceed from one firing line to another, all weapons will be **unloaded, cleared, placed on safe, and kept pointed up and down range during movement**.

(4) Rappelling can be conducted from the rappelling tower located on Range 10. The OIC of Rappel Tower must be rappel master qualified.

p. Military Police Marksmanship Training References.

(1) FM 23-9.

(2) FM 23-35.

(3) AR 385-63.

(4) TC 23-14

(5) Range SOP

B-9. RANGE 11
Range Characteristics:

a. Type: Record Fire (RETS). Night fire, NBC fire.

b. Firing Point: 16

c. Weapons/Ammo Used: M-16/5.56mm.

d. Control Tower Yes.

e. Bleachers: 2/120 man set.

f. Outlets: Yes.

g. Facilities: 1 range house/2 portable toilets.

h. Communications: Radio/Telephone.

i. Targets: M31A1.

j. Lights: No.

k. Primary User: Not applicable.

l. Mess Area: No.

m. Ammo Points: 1.

n. Tracer fire authorized.

B-10. RANGE 14
Range Characteristics:

a. Type: M249 Saw and 60 Machine-gun Qualification and Familiarization.

b. Firing Points: 4.

c. Weapons/Ammo Used: M-60, MG 7.62mm ball/tracer, M249 MG 5.56mm

d. Control Tower: 1 tower.

e. Bleachers: 6/120 man sets.

f. Outlets: 2.

g. Facilities: Range house.

h. Communications: Radio/Telephone.

i. Targets: M31A1.

j. Lights: No.

k. Primary User: Not applicable.

l. Mess Area: Yes.

m. Ammo Points: 1.

n. Tracer fire is authorized.

o. Special Notes:

(1) Basic 10-meter zero range, left side of control lower and bleachers, eight lanes.

(2) Transition Range, right side of control tower, four lanes.

(3) Targets on Transition Ranges are located 400-8(X) meters front the fire line.

(4) This range is designed for Zero, Record, and Transition firing. Units may conduct familiarization type firing within the limitations of the range.

(5) Firing for practice and record can be accomplished on this range.

(6) Transition firing gives the gunner experience necessary to progress from the basic (10-meter) range firing to field firing. It is also the final phase of a gunner's qualification.

p. M60 Machine-gun Zero, Record and Transition:

(1) References:

(a) FM 23-67.

(b) AR 385-63

(2) Safety Precautions:

(a) The OIC of firing will see that no firing is directed outside the right or the left safety limits. Black and white-stripped panels mark Right and Left safety limits.

(b) No personnel will be permitted in front of the firing line prior to clearance and inspection of all weapons on the firing line.

(c) Movement downrange to place silhouette targets will be made only after securing permission from Range Control. The area to the front of both ranges is in the Small Arms Impact Area and permission must be granted from Range Control.

(d) If a misfire or stoppage occurs on the M60, the following procedures will be followed:

(3) Keep round locked in the chamber for 5 seconds in the event a hang fire develops.

(4) After the 5-second wait, open the boll and extract the round.

(5) If the round is not extracted or cannot be extracted within 5 seconds, and the barrel is hot, close the bolt and allow the round to remain locked in the chamber for 5 minutes. Due to the possibility of a cook off (150 rounds fired in a 2-minute period will make a barrel hot enough to produce a cook off).

(6) Additional safety precautions outlined in those FM listed, as references, are applicable.

B-11. RANGE 15

Range Characteristics:

a. Type: 40mm Grenade Launcher.

b. Firing Points: 8 (5 qualification and 3 familiarization).

c. Weapons/Ammo Used: M203, M791/40mm TP/HE.

d. Control Tower: Yes.

e. Bleachers: Yes

f. Outlets: 2

g. Facilities: Range Shack.

h. Communications: Portable Radio Only.

i. Targets: Stationary.

j. Lights: No.

k. Primary User: Not applicable.

l. Mess Area: No.

m. Ammo Points: 1.

n. Tracer tire not authorized.

o. M79/M203 Range:

(1) Reference: AR 385-63.

(2) Description and Capacity: This range consists of eight firing points.

(3) Communications: The occupying units will establish and maintain FM radio communications with Range Control.

(4) Special Notes:

(a) Only high explosive sand training ammunition maybe fired on this range.

(b) Tables I, II, and IV, as outlined in FM 23-31, may be fired on this range.

(c) A unit may prescribe and fire its own familiarization course, provided that all safety regulations are followed.

(5) Safety Precautions:

(a) All personnel within 100 feet of a M79 or M203 fragmentation grenade firing position will wear a kevlar helmet and hearing protection.

(b) The OIC of firing will ensure that each firer confines firing to targets located in the area to the front of his point.

(c) Firing grenades at any point closer to the firing line than the closet target is prohibited.

(d) No one, except Range Control and EOD personnel, will be permitted forward of the firing line at any time.

(e) The OIC of firing will instruct each firer to report any ammunition fired which results in a dud. At the conclusion of the day's firing, the total number of duds will be reported to Range Control.

(f) Anytime a round fails to fire, a hang-fire will be assumed and the following procedures will be followed:

(1) Firer shouts MISFIRE and keeps weapons aimed at the target.

(2) Wait 30 seconds, and then open the breech (Examine the Primer) to recock the weapon.

(3) If the primer is not dented, the firing mechanism is at fault. After the cause of failure to fire has been corrected, the round may be reloaded and fired.

(4) If the primer is dented, attempt to fire the round again. If the round fails to fire a second time, shout MISFIRE, keep the weapon aimed at the target and wait 30 seconds before removing the round. After moving the round, keep it separated from the other ammunition (place in misfire pit), and return it to Post Ammunition after completion of firing.

(5) Additional safety precautions outlined in FM 23-31 are applicable on this range.

B-12. RANGE 16
Range Characteristics:

a. Type: Familiarization of U.S. Weapons.

b. Firing Points: 5 - .5O cal/M-60, AT4.

c. Weapons/Ammo Used: .5O cal/M-60, 90mmRR, M-72A2 Law, and M-16 Rifle.

d. Control Tower: 1.

e. Bleachers: 1/120 Man Set.

f. Outlets: No.

g. Facilities: 2 portable toilets.

h. Communications: Portable radio of FM radio.

i. Targets: Stationary vehicles.

j. Lights: No.

k. Primary User: Not applicable

l. Mess area: Yes.

m. Ammo Points: 1

n. Authorized for tracer fire.

o. Familiarization with U.S. Weapons:

(1) References:

(a) FM 23-23.

(b) FM 23-31.

(c) FM 23-33.

(d) AR 385-63.

(2) Conduct of Range: Explanation and firing demonstration of anti-personnel mine M18 and M18A1 (claymore), 40mm Grenade Launcher, M203 or M79 (TP only), 66mm Heat Rocket, .45 cal Pistol, 5.56mm Rifle (M16), AT4, and 7.62mm Machine-gun (M60). Explanation and live fire demonstration of teamwork, suppression, cover, and concealment.

(3) It is vital all personnel be thoroughly familiar with the regulations governing the use of any weapon system used on this range.

p. Recoilless Weapon/Guided Missiles Firing:

(1) General: The operation of live fire on this range will be IAW AR 386-63, this regulation, and FMs, as appropriate.

(2) Specific:

(a) RSO will ensure that all firing is conducted as though service ammunition is being fired. No firing is to be conducted until all personnel are clear of the back-blast areas. Back-blast areas will be visually marked according to appropriate FMs when ammunition is being fired. Firing will be restricted to direct fire only. At no time will the tube be elevated higher than 10 degrees.

(b) Any duds will be reported at once to Range Control.

q. OIC Special Instructions, Recoilless Rifle/Guided Missile Firing:

(1) Prior to firing, the OIC will ensure that:

(a) Back-blast area is visibly marked as depicted in the appropriate FM.

(b) All personnel on the range are briefed on the back-blast hazard of recoilless rifle/guided missile firing.

(2) During firing. the OIC will ensure that:

(a) Personnel remain clear of the back-blast area at all times.

(b) Safety personnel ensure that no portion of anyone's body is behind the breech of the rifle when a live cartridge is in the chamber of the rifle.

(c) All loaded weapons on the firing line are pointed down range at all times.

(d) No one is forward of the firing line, unless all weapons are cleared.

(e) All safety markers are plainly visible.

(f) When targets need replacing, all weapons are cleared prior to moving personnel forward of the firing line.

(3) After firing is completed, the OIC will ensure that:

(a) All weapons are clear and breeches are open.

(b) All wire from wire guided missiles will be policed from range prior to clearance.

r. Trainfire Ranges.

(1) Reference: TM 9-1300-206.

(2) Responsibility:

(a) Schedule: Range Control Officer.

(b) Maintenance: Range Control.

(c) Conduct of Range: Occupying unit.

(3) Description and Capacity: There are two complexes, each consisting of 25-meter, Field Firing. and Record Firing Ranges.

(a) 25 meter ranges are live ranges. Range 1 has 110 firing points and Range 8 has 32 firing points.

(b) Field firing ranges are live fire ranges with targets located at a distance of 75, 175, and 300 meters from the firing line. Each range has 16 firing points.

(c) Record firing ranges are live fire ranges, which can each accommodate 16 personnel at a time. Targets are located at distances of 50,100, 150, 200, 250, and 300 meters from the firing line.

(4) Communications: The OIC will establish and maintain telephone and FM radio communications between these ranges and Range Control.

(5) Safety Precautions: Safety precautions are as outlined in above references, and as follows:

(a) All Ranges:

(1) Rifles will be inspected for clearance prior to leaving firing line.

(2) Every precaution will be taken to ensure that no person, instructor, or student has any ammunition in his possession on these ranges while off the firing line and upon departing the range.

(3) Blank ammunition will not be fired on ranges.

(b) 25 Meter Range: Firers will not be permitted to move downrange until all weapons have been cleared. The OIC will ensure that firers keep rifles pointed up in the air and pointed downrange when not firing.

B-13. Range 18
Range Characteristics:

a. Type: Special Operations Aviation Gunnery and Special Operations ground maneuver and live fire.

b. Aerial Gunnery area from LS7886 to LS8086 from LS7888 to LS8088 (Northern boundary McDuffie Road, Western Boundary Old Highway 47, Southern Boundary Field Artillery Impact Area (FAIA) Perimeter Road, Eastern Boundary Boggy Gut Creek.

c. Ground maneuver area from LS7686 to LS7886 from LS7690 to LS8090 (Northern Boundary Ivy Road, Western and Southern Boundary FAIA Road, Eastern Boundary Old Highway 47 to McDuffie Road intersection. Ground live fire from McDuffie Road intersection North to Ivy Road, East to Grid Line 79.

d. Weapon/ammo used: Aerial: Helicopter 7.62, AC130 Gunship 105mm, 40mm, 20mm and 7.62. Ground units: 5.56, 7.62, 40mm (smoke, illumination, or TPT).

f. Facilities: Operations building and arms room.

g. Communications: Radio (unit will supply cell phone for alternate means of communication with Range Control).

h. Special Notes:

(1) All requests for use of this range will go through 3/160th Special Operations Aviation Regiment (SOAR) prior to sending request to Range Control.

(2) No units or special events (i.e. hunting, horseback riding) will occur in any training areas adjacent to FAIA when gunnery is occurring.

(3) Any requests for observation of gunnery or Special Operations ground training will be requested through the 3/160th PAO.

i. All live firing by ground elements will be limited to firing south, east or west in the grid box for the range.

APPENDIX C

DROP ZONE (DZ)

C-1. Scheduling.

a. Drop zone is a special use training facility and must be requested on an individual basis. Approval of requests for training area in which DZ is located will not constitute approval to use the DZ. Units requiring the use of DZ in conjunction with surrounding training areas must request the DZ and the training area separately.

b. Personnel acting as Drop Zone Safety Officer (DZSO), will be briefed by a representative of Range Control.

C-2. Requirements for DZSO:

a. Have a rank of at least staff sergeant.

b. Be a qualified and current parachutist.

c. Have assisted a fully qualified DZSO at least twice before performing DZSO duties for the first time.

d. For operations involving more than four C-130s or more than two C-141s, the DZSO will meet the above criteria and have the rank of at least sergeant first class.

e. No personnel or equipment drops will be made unless the DZSO is physically present at the DZ.

f. Procedures.

g. All DZ missions must be closely coordinated with DPTM, DPW, and Signal Branch Safety Office, and Range Control.

h. The DZSO must contact Range Control a minimum of 30 minutes prior to scheduled airborne operations to verity all safety requirements have been met.

i. Contact Range Control as soon as communications have been established with aircraft.

j. The DZSO will call Range Control when aircraft are 5 minutes out from the DZ. At this time Range Control, will assure the DZSO that high trajectory firing along the aircraft's line of flight has ceased (if applicable). The cease-fire will remain in effect until Range Control has been notified by the DZSO that all aircraft has cleared. The DZSO will call Range Control as soon as the aircraft has cleared the DZ. Range Control will be **notified immediately** of any change in schedule.

k. The DZSO will establish communications with Range Control by radio and/or landline to ensure positive communication capabilities. The DZSO will maintain communications with Range Control during airborne operations in order to effect cease-fire of artillery and/or mortars in the event of emergency departure from the approved plan (if applicable). Aircraft being used in operation must have capability of communications with Range Control. The DZSO will establish and maintain ground-to-air communications with the delivering aircraft during airborne operations. If communication with the aircraft is not established or is lose the operation becomes a no-drop situation.

l. At no time will the DZSO change the flight pattern or route of the aircraft while the aircraft is within airspace restricted area R-3004, after it has been established by Range Control or airlift control element (ALCE).

m. The DZSO is responsible for coordinating with Range Control to ensure that power is turned off prior to the drop and that power is turned on when the drop is completed.

n. Vehicles other than those required for control purposes will not be permitted on the DZ, immediately preceding or during a parachute jump. DZSOs will ensure that the DZ is cleared of all other vehicles in advance of a scheduled drop and that they remain clear unfit all parachutists have landed.

o. Only after landing of all paratroopers will heavy drop recovery vehicles and ambulance be permitted on the DZ.

p. The DZSO in conjunction with DPS is responsible for spectator control on and in immediate vicinity of DZ.

q. At the completion of the drop, the DZSO will log out the DZ with Range Control and give all required information prior to breaking communications.

r. The DZSO will be responsible for the police of the DZ and spectator area and removal of all air delivery items; (e.g., platforms, bundles, webbing, trash, etc.) prior to closing of the DZ. In addition, all accidents and/or incidents will be reported to Range Control.

s. It is imperative that DZSOs follow procedures as outlined in this regulation. There are numerous activities, which can occur simultaneously during an airborne operation on the installation. Failure to do such things as making the drop at the prescribed time and/or maintaining communications with Range Control can result in the airborne operations being canceled in the interest of safety. For personnel drops, the DZSO will determine both surface winds and winds aloft IAW TC 57-1 immediately prior to the operation.

C-3. Available drop zone. Drop zone available for use at Fort Gordon is Preston DZ, SW comer, 870448914, NW 87048969, NE 88308969, SE 88308914.

C-4. Use of Preston DZ.

a. Air operations and ground occupation on DZ conflict with the firing of several artillery firing points west and east of the 88 north-south grid line.

b. All scheduled activity described in paragraph C-4a, above, will be stopped to allow airborne training.

C-5. Electrical power cutoff. Preston DZ is located near electrical power lines which require that the electrical power be terminated 30 minutes prior to and during any troop drops. Range Control will ensure this is accomplished by DPW.

APPENDIX D

RANGE CLEARANCE

D-1. The following procedures will be followed as a minimum in proper clearance of ranges:

a. Range area.

(1) Police mess area.

(2) Police bleachers.

(3) Sweep latrine.

(4) Police of complete area from firing line to Range Road.

b. Ammo point.

(1) Police of paper, etc.

(2) Police screen brass.

(3) Ensure all crates, bandoleers. clips, etc., are removed from range.

c. Firing lane.

(1) Police all brass and live ammunition from foxholes.

(2) Police foxhole and stand firing step-up.

(3) Neatly stack sandbags on top of foxhole covers with tied end facing down range.

(4) Staple now zero targets back on silhouette.

(5) Disconnect speakers and store them into range house.

(6) Return all equipment that was signed for from Range Control.

D-2. Remarks:

a. Police of range is a continual process. The occupying unit is responsible for police of the range during as well as after firing.

b. Any questions or recommendations to these instructions will be addressed to Range Control Officer, DPTM.

APPENDIX E

ARTILLERY AND MORTAR FIRING POINTS

E-1. Artillery and mortar firing is restricted to firing into the artillery impact area.

E-2. All safety requirements and procedures related to artillery and mortar firing is the responsibility of the occupying unit.

E-3. Safety data and overlays depicting safety fans, firing positions, and observation post requests are submitted by the occupying unit to this headquarters, ATTN: ATZH-DPP-P, 3 weeks prior to desired firing date.

E-4. Artillery and mortar firing points are located as indicated below:

a Firing points.

FIRING POINT	GRID COORDINATES	TRAINING AREA
ALPHA - 8191	8182491824	36
BRAVO - 8292	8247592573	36
CHARLIE – 8381	8370690160	34
DELTA - 8591	8527191818	29
ECHO – 8390	8528290713	29
FOXTROT - 8690	8693190681	24
GOLF – 8889	8751289231	23
HOTEL - 8091	8097191529	42
INDIA - 8492	8405692559	28
JULIET - 8291	8219590968	37
KILO – 8690	8606590207	30
LIMA – 8589	8524289708	30

b. Observation post locations.

OBSERVATION POST	GRID COORDINATES
1	80708830

E-5. Units requesting to fire artillery must designate which artillery firing point(s) they will utilize during their training exercise, (i.e., Firing Point A-8291).

E-6. Range 16 is the designated range for mortar demonstration firing.

E-7. Units requesting to fire from artillery firing points, which would like to use the adjoining training area, must request the training area separately.

E-8. The following procedure will be used for requesting artillery-firing points:

a. Unit.

b. Date and time group for utilization period.

c. Type of ammunition.

d. Type of equipment. (Weapon).

e. Firing point(s).

f. Training area (if needed).

g. OIC and RSO full name.

h. POC name and telephone.

i. Date and time group unit arrival. Departure.

j. Reason for training (ARTEP, AT, FTX, etc.).

k. Daily start/stop time for live firing.

APPENDIX F

ENVIRONMENTAL PROTECTION AND SPILL PROCEDURES

F-1. General.

a. The policies and procedures outlined below are established to ensure maximum environmental protection of Fort Gordon Ranges and Training Areas within the framework of applicable environmental regulations and to ensure unit understanding and compliance.

b. All personnel are responsible for the protection of the environment. Maneuver damage will occur. Units will keep maneuver damage minimal by:

(1) Limiting trail usage to one road in and out of training site.

(2) Repairing damage done to training site (fill in fighting positions, trenches etc)

(3) Retrieving all equipment, wire and concertina rolls from sites.

(4) Prevention of damage to trees and brush. If a tree or large shrub prevents access of an area do not remove, call Range Control and they will notify Forestry to see if the tree or shrub can be removed.

(5) Be aware of endangered /protected species habitats and know what limitations are set for those areas.

(6) Keep vehicle movement restricted to area requested on RFMSS and Unit Environmental Checklist. There are limited tactical vehicle maneuver areas designated on Fort Gordon. If cross-country movement of vehicles is needed it must be requested on the Unit Environmental Checklist and approved for use by Range Control and ENRMO.

(7) Stay out of wetlands. There is one approved water crossing on Fort Gordon.

(8) Parking on road shoulders is prohibited unless vehicle is broke down.

c. Spill Procedures.

(1) When spill is discovered report immediately to Range Control or if after hours notify Fire Department.

(2) Unit is responsible for containment and clean up of spill. Do not dig deeper than 8 to 10 inches. Notify Range Control when this part of clean up is accomplished. Range Control will use a DRAGER Tube to determine if further clean up is necessary. This is the only Environmental Protection Agency (EPA) certified method to determine contamination levels.

(4) All materials associated with the clean up will be removed from training site in appropriate containers to prevent further contamination.

(5) Any spill greater than 10 gallons or in or near a water source is an emergency.

(6) All using units will have a Unit Spill Plan at every training site.

APPENDIX G

TRAINING AREA (S) CLEARANCE

G-1. The following procedures will be followed as a minimum in proper clearance of training areas:

a. Training Area:

(1) Police In and around boundary of training area.

(2) Fill in foxholes.

(3) Fill in sump holes.

(4) Remove trash and debris.

(5) Remove all field wire/concertina.

b. Training Area Facilities:

(1) Clean and sweep buildings.

(2) Police in and around buildings.

(3) Clean and sweep latrines.

(4) Sweep out all portable potties.

(5) Buildings not damaged.

c. Report damaged property and POL spills to Range Control.

d. Report unsafe conditions to Range Control.

G-2. All previous training area/range deficiencies become the unit's responsibility once training area/range is signed for.

G-3. Using unit responsible for police and maintenance of training area during operation. The OIC will call Range Control prior to departure for an inspection of the area. Failure to coordinate with Range Control prior to departure will affect further coordination and utilization of training areas.

APPENDIX H

ROTARY WING OPERATIONS

H-1. Purpose. To establish polices and procedures for administrative airspace control of aircraft operating over the Fort Gordon Military Reservation. To prescribe requirements to be met by aviation units and aviators prior to conducting aerial flights over Fort Gordon and operational procedures for Range Control.

H-2. Applicability. The procedures outlined herein are applicable to all aviators and aviation units and Fort Gordon Range Control.

H-3. General. The polices and procedures set forth in this appendix will govern flight procedures and issuance of hazard area advisories by Range Control on Fort Gordon reservation. This appendix is designed to allow aircraft to operate in and around live fire training areas in a safe and timely method with minimum disruption to the conduct of live firing training.

H-4. Responsibilities.

a. The DPTM through the airspace management element is charged with staff responsibility for planning, coordinating, and monitoring of airspace control.

b. Range Control will:

(1) Implement the provisions of this regulation and provide air corridors/route advisories to all aircraft operating on the Fort Gordon Reservation.

(2) Maintain a Fort Gordon map, 1:50,000, posted with the routes, corridors, and known points as specified in this regulation. Active ranges, DZs, and other current hazards to aviation will be posted on the map.

(3) Monitor FM at 42.00MHz, UHF 356.450, and very high frequency (VHF) frequencies published in appropriate flight information publications.

(4) Issue advisories on known hazards to aviation and provide flight following services. Overdue aircraft information will be passed to Bush Field Operations as appropriate.

c. Aviation units conducting aerial flights over Fort Gordon Reservation will ensure its pilots are familiar with this regulation and have been properly briefed IAW paragraph H-5c(6) below.

d. Aviators conducting aerial flights over Fort Gordon Reservation will be familiar with the provisions of this regulation and conduct all flights IAW advisories provided by Bush Field Tower and Range Control. In the event of unforeseen situations or emergencies, the pilot in command is responsible for the safe operation of his aircraft and keeping Bush Field/Range Control advised of the current situation.

H-5. Airspace Control Operation.

a. Airspace control system. This airspace control system will allow aircraft to maneuver and land within training areas affected by live fire range fails and other training with minimum interruption to ongoing training activities. This system will be controlled by Range Control. Range Control will be manned by qualified personnel at all times and will provide limited flight following and aircraft route advisories into and out of designated LZs. Range Control will maintain communications with all active ranges/firing points/range activities and provide Bush Field timely hot point or restricted area data. Range Control radio facilities will provide a backup communications system to Bush Field to furnish route advisories in the event of communications difficulty. Positive control is dependent on aircraft operating within predetermined lanes over easily identifiable terrain. The following routes/corridors (see subparagraphs b and c below) have been established to aid in flight following and provide a positive means of channeling aircraft in the vicinity of hazards such as range fans or airdrops.

b. Routes. The following route structure is designed to provide a well-defined means of navigation between major areas of the reservation. Aircraft will avoid over-flight of prohibited areas in the vicinity of routes; however, safe operations will take precedence in all instances. Fort Gordon routes are:

ROUTE	DESCRIPTION
1 -GREEN	BM 143 (LG 7181) north along GA 221/47 to Silver Run Church (LG769927), turn northeast to GA 278/12 at BM 156.7 (LG833967).
2-RED	Intersection LG 040920 west along Tobacco Road to Gate 5, across installation to GA 78/278, turn southwest along GA 78/278 to BM 156.7 (LG833967).
3-BLUE	Intersection GA Highway 1 (LG7780), northeast along GA Highway 1 to intersection GA Highway 1and Tobacco Road.
4-BLACK	BM 137.8 (LG855852) north along Sandy Run Crook to BM 156.7 (LG833967).

c. Corridors. Corridors have been developed to provide precise flight paths to be utilized in the vicinity of live fire range fans or other activities that would restrict aircraft flight. Corridors have the following airspace restrictions:

(1) Altitude. A maximum of 100 feet above obstacles. Aircraft may climb to 200 feet mean sea level or above ground level to reestablish radio communications with Bush Field Tower. Aviators will report change in altitude and Range Control will determine if the mission can be continued at the attitude. Aircraft with sling-loads will maintain safe clearance between the load and obstacles IAW unit SOP and clearance with Range Control.

(2) Airspeed. Airspeed will be adjusted to ensure ground track remains within prescribed limits.

(3) A means of determining safe routes into and out of LZs will be utilized to provide a positive and independent check prior to advising an aircraft along a route corridor. The system to be utilized is called visual plot. Range Control will maintain a transparent range fan, scale 1:50,000, for each hazard-producing activity on Fort Gordon. As a RSO contacts Range Control to open his activity, the fan for that activity is quick reference to those routes and corridors that are not affected by the fans. As the Safety Officer of a point terminates that activity. Range update of the flight control map.

(4) Request for check-fires from aircraft to Range Control may be accomplished as needed to perform certain missions, or on a priority basis, to allow access to low altitudes within range fans. Other non-emergency check-fires will be accomplished only through prior approval, prior permission is required with Range Control. The check-fires should be held to a minimum. ANY AIRCRAFT CAN REQUEST AN IMMEDIATE CHECKFIRE WHEN REQUIRED TO ENSURE SAFE AIR OR GROUND OPERATIONS.

(5) Aircraft conducting emergency missions of any type should conduct flight following operations on Range Control frequencies. Immediate check-fires will be issued to any range activity in the vicinity of emergency mission flight paths or operations.

(6) Units who conduct helicopter operation within the boundaries of Fort Gordon Reservation will ensure that all aircraft have at least one pilot on board who has:

(a) Received a thorough briefing on the Fort Gordon Reservation airspace control system from Range Control.

(b) Received a reservation/range overlay or map depicting corridors, ranges, and restricted airspace boundaries.

(7) All items in subparagraph (6), above, must be accomplished prior to an aviator being assigned pilot-in-command duties for flight into restricted area R-3004. National Guard, Reserve, or Army aviators from other installations must meet the above criteria unless waived by DPTM. Units with corridor qualified pilots may qualify other pilots in their unit IAW this appendix, however, a written verification will be forwarded to the Fort Gordon Range Control Officer prior to conduct of any operation in the Fort Gordon restricted area.

(8) Precise navigation along routes and corridors and accurate location of LZs is dependent on aviators having an accurately overprinted map with current airspace control measures. The pilot in command of rotary wing aircraft will have in his possession a map, scale 1: 50,000 annotated with the routes, corridors, and known points. This map will be easily accessible during flight.

H-6. Administrative Flight Following Procedures.

a. Aviators will contact Range Control prior to entering the reservation and furnish the following information:

(1) Aircraft identification (Tail number and type).

(2) Number of aircraft in flight.

(3) Aircraft position.

(4) Requested routing.

(5) Destination.

b. Routing will be requested using any of the following means:

(1) Route color identifier.

(2) Corridor number.

(3) Distance and direction from checkpoint.

(4) Grid coordinates.

c. Current location of destination will be specified using any of the following:

(1) Check point number designation.

(2) Common name.

(3) Grid coordinates.

(4) Distance and direction from checkpoint to/common name/grid.

d. Aircraft will read back all advisories given by Range Control to ensure clear understanding. Aircraft will report reaching destination and any checkpoints instructed by Range Control. Range Control will also provide aviators with ranges where lasers are being employed (if applicable).

H-7. Safety.

a. Range Control is responsible for informing aviators of firing areas that are in use. Individual aviators are responsible for avoiding hazardous areas.

b. Any aircraft given inaccurate or unsafe instructions by Range Control or Bush Field personnel should notify Range Control as soon as possible.

c. Aircraft flying under artillery. Target lines will advise Range Control so the firing agency can be so advised. Aircraft not intending to land at active firing points will avoid them by no less than 500 meters. Aircraft landing at active firing points will coordinate with Range Control for a check-fire 5 minutes out.

H-8. Contact Range Control Operations for designated LZs.

APPENDIX I

PROCEDURES FOR AIR-TO-GROUND OPERATIONS IN RESTRICTED AREA R-3004

I-1. General.

a. The procedures outlined below are established to ensure maximum utilization of the Fort Gordon Restricted Airspace R-3004 and the artillery impact area in R-3004 within the framework of safety regulations appropriate operational procedures, and current range procedures.

b. The Commanding General, Fort Gordon, GA is proponent for control of restricted airspace R-3004 and therefore retains the prerogative to close the impact area R-3004 if safety or operational priorities take precedence.

I-2. Responsibilities.

a. Commander, Fort Gordon, GA.

(1) Is the proponent for restricted Area R-3004 and control of all terrain under this area. Proponent is responsible for activation and deactivation of R-3004 in conjunction with established FAA procedures.

(2) Is responsible for coordination and scheduling for restricted Area R-3004 and Air Force utilization of restricted airspace in R-3004.

(3) Establishes procedures to request and coordinate use of the artillery impact area.

(4) Provides the necessary facility, operator, and maintenance for the surface-to-air communications radio.

b. Commander, 9th Air Force (Tactical Air Command).

(1) Is responsible for submission of training requests to Commander, Fort Gordon, GA on a timely basis and IAW procedures outlined in this appendix.

(2) Ensures safety compliance with tolerance reflected in Federal Aviation Regulation 74.

(3) Ensures crews using Fort Gordon impact area are familiar with this appendix. Responsible for activation and deactivation of R-3004 in concert with established FAA procedures.

(4) Is responsible for coordination and scheduling for restricted Area R-3004 and Air Force utilization of restricted airspace in R-3004.

(5) Establishes procedures to request and coordinate use of the artillery impact area, Fort Gordon, GA.

(6) Provide the necessary facility, operator, and maintenance for the surface-to-air communications radio.

(7) Ensures each flight begins its training runs NLT 15 minutes after training window opens. If run is started later than 15 minutes after the training window opens, coordination with Range Control, who in turn, will notify FAA.

I-3. Conditions.

a. Only ordnance specified in this appendix will be expended on the Fort Gordon Artillery Impact Area.

b. Only soft targets (trucks, buses, etc.,) will be fired upon while expending air-to-surface munitions.

c. The 1,900-foot mean sea level lower south of R-3004 will be avoided by at least 1 mile horizontally.

d. Air-to-surface ordnance delivery heading is restricted to delivery angle between 030 - 090 degrees.

e. All air-to-surface ordnance must be approved for use by Chief, Range Control.

f. The artillery impact area will be available for surface-to-air activity on a noninterference basis for normally scheduled Army and Army Reserve component training. No air-to-surface activity will be scheduled on weekends, national holidays, or the week of the Masters Golf Tournament.

g. Scheduling coordination and procedures IAW this appendix apply. The 9th Air Force scheduling agency is the 363d Tactical Fighter Wing, Director Operations Services (DOS), Shaw Air Force Base, South Carolina , DSN 965-3353/3250.

h. Ninth Air Force POC is Director Operations Services of Ranges (DOSOR), DSN 965-2432/ 3737.

i. The 383d Tactical Fighter Wing is responsible to ensure all air crews using the Fort Gordon range comply with the provisions of USASC&FG Regulation 210-21, Range Regulation.

j. Upon notification of a national emergency, rapid reaction force deployment, partial of full mobilization, or a nuclear accident and incident control (NAIC) in proximity to Fort Gordon, GA, R-3004 will be closed and scheduled Air Force training suspended.

I-4. Range Procedures. See USASC&FG Regulation 210-21.

I-5. Scheduling.

a. The 363d Tactical Fighter Wing, Shaw Air Force Base is responsible for the scheduling and coordination for air-to-surface operations in R-3004 and the artillery impact area. The scheduling agency will coordinate the weekly range utilization schedule with the USASC&FG Range Control, DPTM, NLT 10 calendar days proceeding the first day of the scheduled week. Upon agreement, the 363d Tactical Fighter Wing will provide the USASC&FG, ATTN: ATZH-DPT-R, the users and 9th Air Force/DOSOR with a written, approved copy of the firing schedule NLT 5 calendar days preceding the first day of the scheduled week.

b. In accordance with provisions of this appendix, a confirmed schedule will be provided by 363d Tactical Fighter Wing via hard message to Fort Gordon and all Air Force units from outside Shaw Air Force Base.

c. Agencies to be provided copies of the confirmed schedule:

(1) Scheduling units.

(2) Commander, USASC&FG, ATTN: ATZH-DPT-T, Fort Gordon, GA 30905.

(3) Plans, Operations & Training, DPTM, USASC&FG, ATTN: ATZH-DPM, Fort Gordon, GA 30905.

(4) Department of Transportation, Federal Aviation Administration, Mid-South Flight Standard, District Office, 3420 Norman Berry Drive, Suite 430, ATTN: Aviation Safety Inspector, Atlanta, GA 30354.

(5) FAA Control Tower, ATTN: Tower Chief, Route 3, Box 66, Augusta, GA 30906.

(6) Director, Operations Services, 9th Air Force, Shaw Air Force Base, SC//DOSOR//.

d. Changes and/or cancellations to the schedule will be immediately coordinated between the 363d Tactical Fighter Wing and Range Control, DPTM.

e. Point of contact for scheduling and coordination are below:

(1) USASC&FG:

(a) Range Control, DPTM, DSN 780-5005/5008.

(b) Chief, Plans, Operations and Training, DPTM, DSN 780-9536/2019.

(2) Ninth Air Force:

(a) 363d Tactical Fighter Wing/DOS, DSN 965-2353/3250.

(b) Ninth Air Force/DOSOR, DSN 965-2856/3701.

f. As a minimum the following information will be provided in the confirmed schedule:

(1) Schedule week.

(2) Block times and maximum altitude for each day encompassed by the schedule.

(3) Type and number of aircraft for each block time.

(4) Ordnance that will be delivered.

(5) Unit.

(6) Point of contact at unit level. (NOTE: POC for scheduled operations will be responsible for keeping Range Control, DPTM informed of any flight delays/changes at DSN 780-5008/5005)

g. Schedule request format. The following information will be provided by the 363d Tactical Fighter Wing range scheduler to Range Control, DPTM, DSN 780-3842/5005. At the initial contact for coordination and scheduling on a weekly basis (Monday - Friday) to include day periods by hours used and are submitted and coordinated for initial approval/disapproval NLT 10 calendar days prior to the first day or the schedule week. All times will be local.

DAY	BLOCK TIME(S)	TYPE/3A/C	ORDNANCE	UNIT
e.g. Mon	0800-0830	4/F- 1 6	BDU-33	363 TFW/19TFS
	1030-1100			
	1400-1430			

I-6. Operational Procedures.

a. The George Clausen Pond and surrounding farm area will not be over-flown below 2,000 feet ground level.

b. Do not fly closer than 1mile horizontally to the 1,900 feet mean sea level tower just south of R-3004.

c. Arming switches will be on safe anytime aircraft is outside R-3004.

d. Ordnance release headings will be between 30 - 90 degrees.

e. Random dry attacks from any heading are authorized on R-3004.

f. Aircraft will not enter R-3004 initially without radio contact clearance by Fort Gordon Range Control on the designated UHF frequency.

g. Flight leaders will clear off with Fort Gordon Range Control when departing the area.

h. Flights will enter R-3004 from the Bulldog D. Mid-operations are not below 500 feet above ground level and above 12.000 feet mean sea level.

i. No ordnance will be dropped until the flight leader has ascertained that the impact area is cleared specifically to do so.

j. The 363d Tactical Fighter Wing office has the primary responsibility for the operational conduct of its aircrews and the aircrews of other units scheduled for using Fort Gordon impact area. The 363d Tactical Fighter Wing will establish operating procedures, restrictions, limitations, Fort Gordon impact area/target charts, etc., for all users to include addressees in paragraph I-5c, above.

k. Fort Gordon range procedures briefing will be accomplished between using units and the 363d Tactical Fighter Wing/DOW or their designated representative prior to utilizing the Fort Gordon R-3004 and the impact area. Using units will receive, at the lime of their initial briefing, copies of publications from Range Control. Unit aircrews will be thoroughly briefed on the Fort Gordon procedures prior to using R-3004 and the impact area by Range Control.

I-7. Range Compatible Use Zone.

a. Mark-106 bombs will be delivered at speeds not exceeding 650 knots below l,000 feet above ground level in level flight.

b. General purpose bombs and battery display unit (BDU) bombs will be delivered at speed not exceeding 520 knots between 1,500 feet above ground level and 12,000 feet mean sea level at 20 - 60 degree dive angle. All ordnance delivery heading will be between 030 and 090 degrees.

I-8. Air-to-surface ordnance. The following inert and/or practice air-to-surface ordnance is approved for expenditure on the Fort Gordon impact area. When the use of Hot smoke spotting charge present a range fire hazard. Only Cold smoke spotting charges will be used. The Fort Gordon Range Control will notify the 363d Tactical Wing when conditions call for the use of Cold smoke. When Cold smoke is directed, it will be clearly stated in the 363d Tactical Fighter Wing and user unit schedule:

a. NW-821 inert (500 lb).

b. MK - 106 w/spotting charge (51 lb).

GLOSSARY

Section I
Abbreviations

AFOP
ammunition found on post

AIEP
Army Ideas for Excellence Program

ALCE
airlift control element

ammo
ammunition

AR
Army regulation

ARNG
Army National Guard

ARTEP
Army Training and Evaluation Program

ASP
ammunition supply point

AT
annual training

ATV
all terrain vehicle

BDU
battery display unit

Bn
battalion

Btry
battery

C/FB
Chief of Firing Battery

C/Sec
Chief of Section

cal
caliber

CALS
Committee for Ammunition Logistics

CDO
Center Duty Officer

Cdr
commander

CPL
Corporal

CS
chlorobenzalmalonitrile

DA
Department of the Army

DDEAMC
Dwight David Eisenhower Army Medical Center

DHS
Directorate of Health Services

DOD
Department of Defense

DODIC
Department of Defense identification code

DOIM
Directorate of Information Management

DOS
Director Operations Services

DOSOR
Director Operations Services of Ranges

DPS
Directorate of Public Safety

DPTM
Directorate of Plans, Training, and Mobilization

DPW
Directorate of Public Works

DRM
Directorate of Resource Management

DSN
Defense Switched Network

DZ
drop zone

DZSO
Drop Zone Safety Officer

ENRMO
Environmental and Natural Resources Management Office

EOD
Explosive Ordnance Disposal

EPA
Environmental Protection Agency

FAA
Federal Aviation Agency

FAIA
Field Artillery Impact Area

FAS
field ammunition storage

FDC
fire direction center

FDO
fire direction officer

FG
Fort Gordon

FM
Field manual, frequency modulated

FORSCOM
United States Army Forces Command

FSU
field storage units

FTX
field training exercise

GA
Georgia

GSA
General Services Administration

HE
high explosive

HQ TRADOC
Headquarters, United States Training and Doctrine Command

HQDA
Headquarters, Department of the Army

IAW
in accordance with

ICM
improved capability munitions

ITAM
integrated training area management

1b
pound

LTC
lieutenant colonel

LZ
landing zone

MACOM
major command

MACS
Machine Arcade Combat Simulator

MHz
megahertz

mm
millimeter

MP
military police

MUSARC
Major U.S. Army Reserve Command

NAIC
nuclear accident and incident control

NBC
nuclear, biological, chemical

NCO
noncommissioned officer

NCOIC
noncommissioned officer in charge

NCS
Net Control Station

NG
National Guard

NLT
not later than

NSN
National stock number

off
officer

OIC
officer in charge

PAO
Public Affairs Office

POC
point of contact

POL
petroleum, oils, and lubricants

POV
privately owned vehicle

PSP
perforated steel platform

QASAS
quality assurance specialist ammunition supply

QD
quantity distance

RCSD
Reserve Component Support Division

RFMSS
Range Facility Management Support System

ROTC
Reserve Officers' Training Corps

RSO
Range Safety Officer

SFC
sergeant first class

SIR
Serious Incident Report

SOP
standing operating procedures

SSG
staff sergeant

TAMIS
Training Ammunition Management Information System

TC
Training circular

TEC
training event code

TM
Technical manual

TRADOC
United States Army Training and Doctrine Command

U.S.
United States

UCMJ
Uniform Code of Military Justice

UHF
ultra high frequency

UIC
unit identification code

USAR
United States Army Reserve

USASC&FG
United States Army Signal Center and Fort Gordon

USPFO
United States Property and Fiscal Officer

VE
velocity error

vhf
very high frequency

WARS
Worldwide Ammunition Reporting System

XO
executive officer

Section II
Terms

Cease firing
A command to immediately discontinue firing. The OIC, RSO, NCO, or any person observing an unsafe condition at the firing location may give the command.

Check fire
A cease-fire imposed by Range Control.

Combat Control Team
A team which clears and secures a DZ/LZ.

Combined Arms Live Fire Exercise (CALFEX)
A company or larger maneuver elements employing combat formations using supporting mortar, artillery, Army aviation, and/or close air support (CAS) fares.

Drop Zone Safety Officer
A qualified parachutist with the rank of at a least Staff Sergeant who is responsible for aspects of safety during an airborne operation (see appendix C).

Dry Facility
A facility/range which is in use, but on which no ammunition is being fired.

Dud Area
An area designated by the Range Control Officer in which one or more non-detonated explosive items are present which create a hazard to persons or property. This definition includes all impact areas. The sign is marked DANGER DUD AREA unauthorized entry into this area and handling or removal of unexploded ammunition is extremely dangerous and prohibited under penalties provided by law.

Firing Point
Any area designated by Range Control Officer for the firing of indirect-fire weapons using live ammunition.

Impact Area
An area designated by the Range Control Officer in which all live ammunition fired from designated range or firing points can be expected to impact detonate. Impact areas are further defined as artillery and small arms impact areas. The perimeters of impact areas arc clearly marked by signs reading DANGER IN4PACT AREA, KEEP OUT. The impact area is within the approved surface danger zone.

Maintenance
Includes routine periodic inspections and repairs to or replacement of existing items.

Occupy
A unit physically located on a range or training area with personnel, equipment, or ammunition. Units will establish communications with Range Control to request permission to occupy any range, firing point or observation point in either a dry or wet status.

Officer in Charge
Commissioned officer designated by the unit to be responsible to the Range Control Officer for the maintenance and safe use of a specified Firing range, training/facility, or artillery firing point. Must be an E-7 or above

Off-Limits Areas:

Dud and impact area. Entry into dud and impact areas is prohibited at all times.

Ranges, landing zone, and the other impact areas. All ranges, landing zone (airstrip located in Training Area 37), and other impact areas are off-limits to all personnel except as authorized by the Chief, Range Control.

OIC of Training
The designated commissioned officer in charge of all activities at one or more particular firing points and responsible for all firing safety.

Range
Any area designated by the Range Control Officer for the firing of direct-fire weapons with live ammunition. Area includes target, ricochet, and safety areas specified in AR 385-63 as well as administrative areas and facilities

Range Control Officer
Individual designated by the installation commander to be responsible for the coordination, maintenance, and safe use of ranges, firing points training areas, and facilities on the reservation.

Range Safety Officer
Individual designated by the using unit responsible to the Range Control Officer and OIC for the safe conduct of firing on a specified range group of firing points. Range Safety Officer will not be assigned any other duties. Must be an E-6 or above

Recreation Area
Any area designated by the installation commander within which recreational activities are conducted.

Restricted Area - Federal Aviation Administration
Special use airspace designated under Federal Aviation Regulation, Part 73, within which the flight of aircraft is subject to restriction.

Restricted Area - Other
Any area or facility designated IAW AR 385-63 by the installation commander within which specified restrictions on entry and/or exit apply.

Roadblock
A barrier, permanent or temporary set across a road or trail to bar foot and/or vehicular traffic. Permanent barriers are established by Range Control Officer, temporary barriers are established the Range Control Officer or using unit with the concurrence of the Range Control Officer.

Surface Dancer Zone
The segment of the range is which is endangered by particular type of weapon firing (see AR 385-63 for surface danger zone diagrams of various weapons).

Training Area
An area designated by the Range Control Officer within which unit training activities are conducted, exclusive of training facilities located therein.

Training Facility
An area designated by the Range Control Officer, excluding ranges and firing points, within which a specific training activity is conducted and for which the facility has been designated, (e.g., landing strip. DZ, bivouac site, signal training site, etc.).

Occupying Unit
Any unit or activity authorized by the Range Control Officer IAW current regulations to use training ranges, firing points, areas, and/or facilities on the reservation. This department includes non-Department of Defense (DOD) and civilian organizations authorized use of DOD facilities.

Wet Facility
A facility/range which is in use and on which ammunition is being fired.

(ATZH-DP)

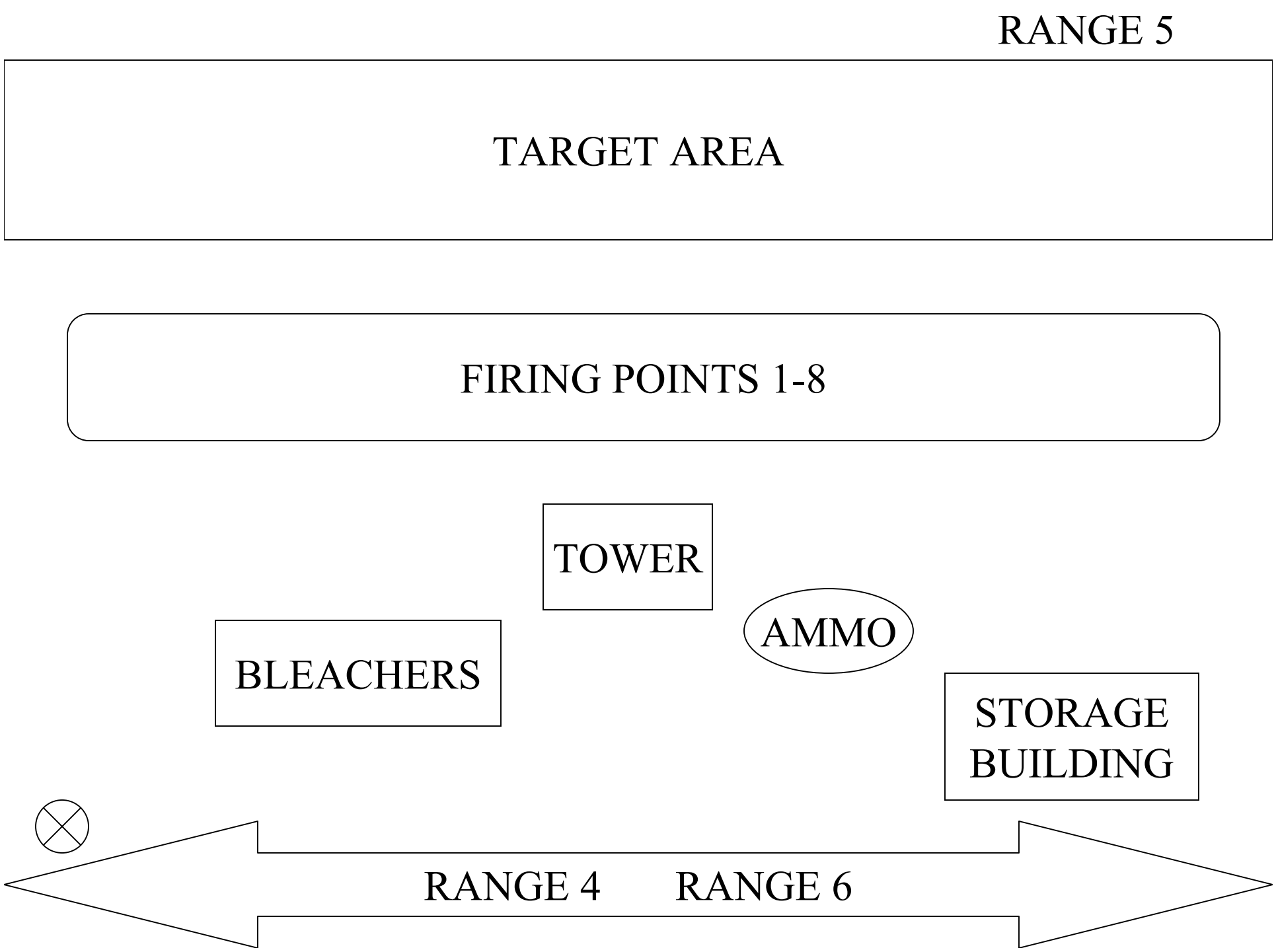
FOR THE COMMANDER:

OFFICIAL:

CRAIG L. ZIMMERMAN
Colonel, GS
Chief of Staff

//SIGNED//
LISA E. McCLEASE
Director
Information Management

DISTRIBUTION:
http://www.gordon.army.mil/doim/imc/Forms.htm


RANGE 5
TARGET AREA
FIRING POINTS 1-8
TOWER
AMMO
BLEACHERS
STORAGE BUILDING
RANGE 4
RANGE 6

5-9. ZEROING THE M203 GRENADE LAUNCHER

A correct zero consists of the elevation and windage sight settings that enable the grenadier to hit the point of aim at a given range with one of the three sighting systems: leaf, quadrant (discussed here), or nightsight (discussed later in the chapter). To zero the M203 using either the leaf sight or quadrant sight, the grenadier engages a target at 200 meters. (The M203 is normally zeroed using only the quadrant sight, but may be zeroed with only the leaf sight, or with both sights):

a. **Zeroing the Leaf Sight.** A red mark at 50 meters on the leaf sight reminds the grenadier not to zero at this range.

(1) Select a target at 200 meters.

(2) Place the sight in the upright position.

(3) Place the center mark of the windage scale on the index line on the rear of the sight base.

(4) Loosen the elevation adjustment screw on the leaf sight; place the leaf sight's index line on the sight mount's center elevation mark.

(5) Tighten the elevation adjustment screw.

(6) Assume a prone supported firing position.

(7) Load one round of 40-mm HE or TP ammunition.

(8) Use correct sighting and aiming procedures to align the target with the front leaf sight.

(9) Fire a round, sense the impact, and adjust the sight.

(a) *Windage.* Turn the sight windage screw clockwise to move the leaf sight to the left, and vice versa. One increment moves round impact 1 1/2 meters at a range of 200 meters.

(b) *Range.* Use a 40-mm cartridge case and turn the elevation adjustment screw to raise the leaf sight (this increases range) or to lower the leaf sight (this decreases range). Turning the screw one increment moves round impact 10 meters at a range of 200 meters.

(10) Fire two more cartridges, readjusting the sight after each. Once a round impacts within 5 meters of the target, the weapon is zeroed.

(11) After you have zeroed the weapon, record the zero data on your scorecard. As soon as you can, transfer the information to a separate (small) piece of paper, and tape this inside the M16 pistol grip.

b. **Zeroing the Quadrant Sight.**

(1) Select a target at 200 meters.

(2) Ensure that the quadrant sight is correctly mounted on the rifle's carrying handle.

(3) Open the front sight post and rear sight aperture.

(a) Move the *front sight post* to its highest position, then back 2 1/2 turns.

(b) Depress the rear sight retainer. Slide the *rear sight aperture* to the left until its white index line aligns with the edge of the sight aperture arm.

(4) Move the sight latch rearward, and reposition the quadrant sight arm to zeroing range (200 meters).

(5) Assume a prone supported firing position.

(6) Use correct sighting and aiming procedures to align the target with the front sight post and rear sight aperture.

(7) Load one round of 40-mm HE or TP ammunition.

(8) Fire a round, sense the impact, and adjust the sight.

(a) *Elevation.* Turn the front sight post right to decrease or left to increase elevation. At a range of 200 meters, one full turn equals 5 meters.

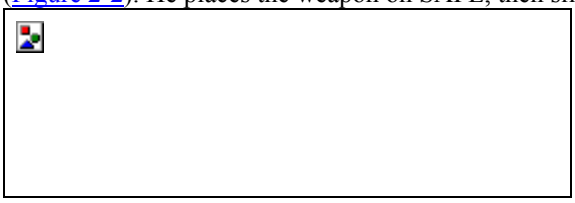
(b) *Windage.* Press the sight aperture retainer; move the rear sight aperture away from the barrel to move the trajectory to the left, or vice versa. At a range of 200 meters, one notch on the rear sight aperture equals 1 1/2 meters.

(9) Fire two more cartridges, readjusting the sights after each. If the round lands within 5 meters of the target, the weapon is zeroed.

(10) After you have zeroed the weapon, record the zero data on your scorecard. As soon as you can, transfer this information to a separate (small) piece of paper, and tape

2-3. UNLOADING

To unload the grenade launcher, the grenadier must first depress the barrel latch and move the barrel forward. The cartridge case or round should automatically eject. If the case is stuck, he taps it with a cleaning rod to remove it (Figure 2-2). He places the weapon on SAFE, then slides the barrel rearward, locking it to the breech.



WARNING
IF THE WEAPON HAS NOT BEEN FIRED, AVOID DETONATION BY EITHER CATCHING THE EJECTED ROUND OR HOLDING THE WEAPON CLOSE TO THE GROUND TO REDUCE THE DISTANCE THE ROUND CAN FALL.

4-3. IMMEDIATE ACTION

Immediate action refers to anything a soldier does to reduce a stoppage without taking time to look for the cause. Immediate action should be taken in the event of either a *hangfire* or *misfire*. Either can be caused by an ammunition defect or by a faulty firing mechanism. Any failure to fire must be considered a hangfire until that possibility is eliminated.

a. **Hangfire.** A hangfire is a delay in the functioning of the round's propelling charge explosive train at the time of firing. The length of this delay is unpredictable, but in most cases it ranges between a split second and 30 seconds. Such a *delay* in the functioning of the round (hangfire) could result from the presence of grit, sand, frost, ice, or excess oil or grease.

b. **Misfire.** A misfire is a *complete failure* of the weapon to fire. A misfire in itself is not dangerous; however, because it cannot be immediately distinguished from a hangfire, it must be considered to be a hangfire until proven otherwise.

c. **Procedures.** Because a stoppage may have been caused by a hangfire, the following precautions must be observed until the round has been removed from the weapon and the cause of the failure determined:

(1) Keep the M203 pointed downrange or at the target, and keep everyone clear of its muzzle. If the stoppage occurs during training, shout 'Misfire' and clear the area of any soldiers not needed for the operation.

(2) Wait 30 seconds from the time of the failure before opening the barrel assembly to perform the unloading procedure.

(3) After removing the round from the receiver, determine whether the round or the firing mechanism is defective. Examine the primer to see if it is dented. If the primer *is* dented, separate the round from other ammunition until it can be disposed of properly. However, if the primer is not dented, the firing mechanism is at fault. Once the cause of the failure to fire has been corrected, the round may be reloaded and fired.

4-2. STOPPAGES

A stoppage is an unintentional interruption in the cycle of operation or functioning that may be cleared by immediate action. A stoppage is classified by its relationship to the cycle of functioning. Table 4-2 shows the types of stoppages.

CHAPTER 4

PERFORMANCE PROBLEMS AND DESTRUCTION

This chapter identifies some of the problems that can cause the M203 grenade launcher to perform incorrectly. It also explains how to identify unserviceable parts and how to destroy the weapon when authorized to do so.

4-1. MALFUNCTIONS

A malfunction occurs when a mechanical failure prevents the weapon from firing properly. Neither defective ammunition nor improper operation of the weapon by the firer is a malfunction. The weapon should be cleaned, lubricated, and retried. If it still fails to function, it should be turned in to the unit armorer. Table 4-1 shows probable causes and corrective action for each type of malfunction.

Malfunction	Probable cause	Corrective action

Failure to cock	• Broken sear • Improper assembly of cocking lever • Loose, broken, or missing cocking lever spring pin	**Notify unit maintenance**
Failure to lock	Excess plastic on breech end of barrel assembly	

Table 4-1. Malfunctions.

Stoppage	Probable cause	Corrective action
Failure to fire	Safety on	Place if fire position
	Empty Chamber	Load
	Faulty ammunition	Reload
	Water or excess lubricant in firing pin well	Hand cycle weapon several times, to include pulling the trigger
	Worn or broken firing pin	Notify unit maintenance
	Dirt or residue in firing pin recess	Clean
	Blurred sear or firing pin	**Notify unit maintenance**
	Dirty firing pin well opening	
	Weak or broken firing pin spring	
Failure to extract	Defective extractor on spring or spring pin	
	Ruptured cartridge case	Remove from barrel
Failure to eject	Worn, broken, or missing ejector spring or retainer	Notify unit maintenance
Failure to chamber	Faulty ammunition	Reload
	Dirty chamber	Clean bore and chamber
Safety fails to stay in position	Broken or worn safety or missing spring pin	Notify unit maintenance

Table 4-2. Stoppages

WARNING
IF THE WEAPON HAS NOT BEEN FIRED, AVOID DETONATING THE ROUND BY EITHER CATCHING IT AS IT EJECTS OR REDUCING THE DISTANCE IT FALLS BY HOLDING THE WEAPON CLOSE TO THE GROUND. DO NOT DO THIS OVER A HARD SURFACE.

4-4. REMEDIAL ACTION

Remedial action is any action taken by the gunner to restore his weapon to operational condition. This action is taken only if immediate action does not remedy the problem.

4-5. DESTRUCTION PROCEDURES

Destruction of any military weapon is authorized *only* as a last resort, to prevent the enemy from capturing or using it. This paragraph discusses planning for destruction, priorities and methods of destruction, and degree of damage. In combat situations, the commander has the authority to destroy weapons, but he must report doing so through channels.

a. **Planning.** SOPs for all units should contain a plan for destroying equipment. Having such a plan ensures that the damage is effective enough to deny use of the equipment to the enemy. The plan must be flexible enough in its designation of time, equipment, and personnel to meet any situation.

b. **Priorities of Destruction.** When lack of time prevents them from completely destroying equipment, soldiers must destroy the same essential parts on all like equipment. The order in which the parts should be destroyed (priority of destruction) is as follows:

(1) Bolt assembly (M16) and breech mechanism (M203).
(2) Barrels (both M16 and M203).
(3) Sights or sighting equipment (including nightsight).
(4) Optics mount.

c. **Methods of Destruction.** Equipment may be destroyed by any of several methods. The commander must use his imagination and resourcefulness to select the best method of destruction, based on the facilities available.Time is usually critical. The methods of destruction are as follows:

(1) ***Mechanical.*** Use an axe, pick, sledgehammer, crowbar, or other heavy implement.
(2) ***Burning.*** Use gasoline, oil, incendiary grenades, other flammables, or a welding or cutting torch.
(3) ***Demolition.*** Use suitable explosives or ammunition or, as a last resort, hand grenades.
(4) ***Disposal.*** Bury essential parts, dump them in streams, or scatter them so widely that recovering them would be impossible.

d. **Degree of Damage.** The method of destruction used must damage equipment and essential spare parts to the extent that they cannot be restored to usable condition in the combat zone, either

4-3. IMMEDIATE ACTION

Immediate action refers to anything a soldier does to reduce a stoppage without taking time to look for the cause. Immediate action should be taken in the event of either a *hangfire* or *misfire*. Either can be caused by an ammunition defect or by a faulty firing mechanism. Any failure to fire must be considered a hangfire until that possibility is eliminated.

a. **Hangfire.** A hangfire is a delay in the functioning of the round's propelling charge explosive train at the time of firing. The length of this delay is unpredictable, but in most cases it ranges between a split second and 30 seconds. Such a *delay* in the functioning of the round (hangfire) could result from the presence of grit, sand, frost, ice, or excess oil or grease.

b. **Misfire.** A misfire is a *complete failure* of the weapon to fire. A misfire in itself is not dangerous; however, because it cannot be immediately distinguished from a hangfire, it must be considered to be a hangfire until proven otherwise.

c. **Procedures.** Because a stoppage may have been caused by a hangfire, the following precautions must be observed until the round has been removed from the weapon and the cause of the failure determined:

(1) Keep the M203 pointed downrange or at the target, and keep everyone clear of its muzzle. If the stoppage occurs during training, shout 'Misfire' and clear the area of any soldiers not needed for the operation.

(2) Wait 30 seconds from the time of the failure before opening the barrel assembly to perform the unloading procedure.

(3) After removing the round from the receiver, determine whether the round or the firing mechanism is defective. Examine the primer to see if it is dented. If the primer *is* dented, separate the round from other ammunition until it can be disposed of properly. However, if the primer is not dented, the firing mechanism is at fault. Once the cause of the failure to fire has been corrected, the round may be reloaded and fired.

4-2. STOPPAGES

A stoppage is an unintentional interruption in the cycle of operation or functioning that may be cleared by immediate action. A stoppage is classified by its relationship to the cycle of functioning. Table 4-2 shows the types of stoppages.

4-1. MALFUNCTIONS

A malfunction occurs when a mechanical failure prevents the weapon from firing properly. Neither defective ammunition nor improper operation of the weapon by the firer is a malfunction. The weapon should be cleaned, lubricated, and retried. If it still fails to function, it should be turned in to the unit armorer. Table 4-1 shows probable causes and corrective action for each type of malfunction.

Malfunction	Probable cause	Corrective action
Failure to cock	• Broken sear • Improper assembly of cocking lever • Loose, broken, or missing cocking lever spring pin	**Notify unit maintenance**
Failure to lock	Excess plastic on breech end of barrel assembly	

Table 4-1. Malfunctions.

Stoppage	Probable cause	Corrective action
Failure to fire	Safety on	Place if fire position
	Empty Chamber	Load
	Faulty ammunition	Reload
	Water or excess lubricant in firing pin well	Hand cycle weapon several times, to include pulling the trigger
	Worn or broken firing pin	Notify unit maintenance
	Dirt or residue in firing pin recess	Clean
	Blurred sear or firing pin	**Notify unit maintenance**
	Dirty firing pin well opening	
	Weak or broken firing pin spring	
Failure to extract	Defective extractor on spring or spring pin	
	Ruptured cartridge case	Remove from barrel
Failure to eject	Worn, broken, or missing ejector spring or retainer	Notify unit maintenance
Failure to chamber	Faulty ammunition	Reload
	Dirty chamber	Clean bore and chamber
Safety fails to stay in position	Broken or worn safety or missing spring pin	Notify unit maintenance

Table 4-2. Stoppages

WARNING
IF THE WEAPON HAS NOT BEEN FIRED, AVOID DETONATING THE ROUND BY EITHER CATCHING IT AS IT EJECTS OR REDUCING THE DISTANCE IT FALLS BY HOLDING THE WEAPON CLOSE TO THE GROUND. DO NOT DO THIS OVER A HARD SURFACE.

4-4. REMEDIAL ACTION

Remedial action is any action taken by the gunner to restore his weapon to operational condition. This action is taken only if immediate action does not remedy the problem.

RANGE SAFETY

This appendix recommends safety precautions for the range described in this manual. However, this information does not replace AR 385-63 or local regulations. In addition, safety requirements vary due to the differences between range courses of fire.

D-1. MARKSMANSHIP TRAINING

The following safety precautions must be observed during all marksmanship training:

a. **Trainers.**

(1) Display a red flag at the entrance to the range or in some other prominent location on the range to warn soldiers that live-fire range training is in progress.

(2) Mark firing limits with red and white striped poles that are visible to all firers.

(3) Keep all weapons not in use properly safeguarded in a prescribed area.

(4) Prohibit smoking near ammunition, explosives, or flammables.

b. **Trainers and Soldiers.**

(1) Always assume that weapons are loaded until they have been examined and found to contain no ammunition.

(2) Never place obstructions in the muzzles of weapons about to be fired.

(3) Wear hearing protection during firing.

D-2. RANGE TRAINING

The range is dangerous. Whether conducting or participating in range training, everyone must remain alert and observe safety precautions. Trainers and soldiers have specific safety responsibilities.

a. **Before Firing.**

(1) ***Trainers.*** Trainers have the following safety responsibilities before range firing:

(a) Close all prescribed roadblocks and barriers and post necessary guards.

(b) Brief all personnel on the firing limits of the range and firing lanes.

(c) Obtain range clearance from the installation range-control office.

(d) Check downrange before firing to ensure all personnel and equipment are clear.

(e) Keep a complete first-aid kit on the range.

(f) Locate medical personnel nearby, where they can be contacted quickly.

(g) Check all weapons to ensure they are operational.

(h) Draw ammunition and issue it only on command of the officer in charge (OIC). When two or more lots of ammunition are used for firing, the OIC ensures the lots are separated and properly identified, in case of accident or malfunction.

(i) Do not allow anyone to move forward of the firing line without permission of the tower operator, safety officer, or the OIC.

(2) ***Trainers and soldiers.*** Trainers and soldiers share the following safety responsibilities before range firing:

(a) Check all weapons to ensure they are clear of ammunition and obstructions, and that their covers are up to show they are clear.

(b) Do not handle weapons except on command from the tower operator or the OIC.

(c) Protect all ammunition from the direct rays of the sun.

b. **During Basic Firing.** Trainers and soldiers have the following safety responsibilities during basic firing:

(1) ***Trainers.*** Trainers are solely responsible for ensuring no one goes forward of the firing line due to the danger posed by duds.

(2) ***Trainers and soldiers.*** Trainers and soldiers share the following responsibilities during basic firing:

(a) Immediately call CEASE FIRE if someone observes an unsafe condition. Do not resume firing until directed by the OIC.

(b) When rounds fail to ignite or explode, they are referred to as duds. When this occurs, record the range (in meters) and the type of ammunition used, and submit this information to range control personnel.

c. **When Clearing the Weapon.** Trainers and soldiers have the following safety responsibilities when the weapon is cleared:

(1) ***Soldier.***

(a) Cock the weapon, observe the extraction of the round, and place the safety on SAFE.

(b) Inspect the breech to ensure that no round is present. If it is clear, declare CHAMBER CLEAR.

(2) ***Assistant instructor.***

(a) Run a cleaning rod through the barrel until you see the end of the rod in the receiver.

(b) Withdraw the rod.

(3) ***Soldier.***

(a) If the gun is clear, return the barrel assembly to the firing position.

(b) Take the safety off SAFE and pull the trigger.

(c) Cock the weapon.

(d) Return the barrel assembly to the firing position.

(e) Place the safety on SAFE.

d. **During Limited Visibility.** Trainers have the following responsibilities during range firing in limited visibility:

(1) Check the downrange area before firing to ensure that all personnel and equipment are clear of the area. To do this, ask three times over a PA system, "Is there anyone downrange?" Pause each time long enough to permit a response.

(2) Mark the range at its entrance or another prominent location with a blinking red light in addition to the red flag.

(3) Mount two red lights on the striped poles that mark the limits of fire. These lights must be visible to all firers.

(4) Do not allow anyone to move from his position until you are told to do so by the OIC.

e. **After Firing.** Trainers have the following responsibilities after range firing:

(1) Have safety personnel inspect all weapons to ensure that they have been cleared.

(2) Check to determine if the soldiers have any expended cartridges or live ammunition.

(3) When weapons have been cleared, keep them in a prescribed area with their barrel assemblies open and their safeties on SAFE.

5-10. OVERALL QUALIFICATION STANDARDS

To qualify with an M203, a grenadier must perform to prescribed standards and must score at least 60 of 90 possible points. Each target hit is worth 10 points. Zeroing is not included on the scorecard, because the weapon must be zeroed before qualification firing. However, the zero data should already have been entered on the scorecard when the weapon was zeroed. HE familiarization may be included in qualification firing, but is not scored. DA FORM 2946-R (40-MM Grenade Launcher Scorecard) is used for qualification firing and is provided in the back of this manual. This form must be locally reproduced on 8 1/2 by 11-inch paper. Figure 5-11 shows an example completed scorecard. Ratings are awarded based on the point chart on the scorecard.
FIGURE 5-11. EXAMPLE COMPLETED DA FORM 2946-R, 40-MM GRENADE LAUNCHER SCORECARD.

5-11. DAY RECORD FIRE

Day record fire gives the grenadier the confidence and experience he needs to progress from dry-firing exercises to record fire. Day record fire includes two NBC tasks (Tasks 4 and 5). All soldiers must be prepared to accomplish their missions, even in protective clothing. This exercise is conducted on a grenade launcher range IAW Firing Table I (Table 5-1). Before they fire for qualification, grenadiers must first zero their weapons. They receive instruction on the objectives, range, targets, and qualification standards. Each firing order consists of two grenadiers, one of whom assists. The unit is organized in firing orders based on range constraints. Grenadiers fire this exercise from the following fighting positions: kneeling supported, midrange supported, long-range supported, NBC midrange point target, and NBC midrange area target. For each of these tasks, the grenadier can designate which target he will engage first.

WARNING
BEFORE ALLOWING ANYONE TO MOVE BETWEEN STATIONS, ENSURE THAT ALL RIFLES AND GRENADE LAUNCHERS HAVE BEEN CLEARED, THAT BOLTS REMAIN TO THE REAR, AND THAT BARREL ASSEMBLIES REMAIN IN THE OPEN POSITION. ANYONE OBSERVING AN UNSAFE ACT SHOULD CALL "CEASE FIRE" AND NOTIFY RANGE PERSONNEL IMMEDIATELY.

a. **Station 1, Zeroing.** The grenadier zeroes with both quadrant and leaf sights at Station 1.

(1) ***Leaf sight.*** From a prone supported firing position, fire to zero the weapon. This reinforces the experience gained during dry firing and allows practice in loading and firing with the most accurate sensing and adjustments obtainable. If you zero in three rounds, use the other two rounds to confirm the zero. If you cannot zero with five rounds, you are removed from the firing line for remedial training.

(a) Prepare the sight for zeroing.

(b) Assume a good prone supported firing position.

(c) When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
200 (ZERO PANEL)
ONE ROUND
COMMENCE FIRING
```

(d) Load one round, obtain the proper sight picture, and announce "Up" to your assistant.

(e) When the tower operator gives the command to commence firing, fire one round at the panel marked "Z."

(f) Sense the impact of the round. If the round did not land within 5 meters of the zero panel, adjust the sights for windage and elevation.

(g) Repeat until a round lands within 5 meters of the zero panel.

(h) Once you have zeroed the weapon, record the zero data on your scorecard. As soon as you can, transfer the information to a separate (small) piece of paper, and tape this inside the M16 pistol grip.

(2) ***Quadrant sight.*** From a prone supported firing position, fire to zero the weapon. This reinforces the experience gained during dry firing and gives you practice in loading and firing with the most accurate sensing and adjustments you can obtain. The steps for zeroing with the quadrant sight are the same as those for zeroing with the leaf sight.

b. **Station 2, Task 1, Kneeling Position.** (Only TP rounds may be used at this station.)

(1) When you receive the command DESIGNATE THE TARGET, identify the target you intend to engage by announcing "Window" or "Bunker. "

(2) When you receive the command DETERMINE THE RANGE, announce the range to the target.

(3) Load one of the three rounds allotted. Because HE may not be fired at ranges of less than 165 meters on the basic grenade launcher range, use only TP rounds.

(4) When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
3 ROUNDS
100 (WINDOW) OR 115 (BUNKER)
COMMENCE FIRING
```

(5) Acquire the proper sight picture and announce "Up" to the grader.

(6) Engage the target given in the fire command until you hit it. Fire any remaining rounds at the second target. You need no other fire command. For each round you fire, your assistant announces "Hit" or "Miss."

.	Time	Rounds	Type	Target and Range
Task 1	2 minutes	3	TP	Window at 90 to 100 meters; bunker at 105 to 115 meters
Task 2	2 minutes	3	TP	Bunker at 135 to 150 meters; automatic weapon at 200 to 250 meters
Task 3	2 minutes	3	TP	Troops in open emplacement at 275 to 300 meters; troops in open at 325 to 350 meters
Task 4	2 minutes	3	TP	Bunker at 135 to 150 meters
Task 5	2 minutes	3	TP	Automatic weapon at 200 to 250 meter

Table 5-1. Firing Table I, day record fire qualification.

c. **Station 3, Task 2, Midrange Position.**

(1) When you receive the command DESIGNATE THE TARGET, identify the target you intend to engage by announcing "Bunker" or "Automatic weapon."

(2) When you receive the command DETERMINE THE RANGE, announce the range to the target.

(3) Load one of the three rounds allotted.

(4) When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
3 ROUNDS
150 (BUNKER) or 250 (AUTOMATIC WEAPON)
COMMENCE FIRING
```

(5) Acquire the proper sight picture, and announce "Up" to the grader.

(6) Engage the target given in the fire command until you hit it. Fire any remaining rounds at the second target. You need no other fire command. For each round you fire, your assistant announces "Hit" or "Miss. "

d. **Station 4, Task 3, Long-Range Supported Position.**

(1) When you receive the command DESIGNATE THE TARGET, identify the target you intend to engage by announcing "Troops in the open emplacement" or "Troops in the open. "

(2) When you receive the command DETERMINE THE RANGE, announce the range to the target.

(3) Load one of the three rounds allotted.

(4) When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
3 ROUNDS
300 (TROOPS IN THE OPEN)
COMMENCE FIRING
```

(5) Acquire the proper sight picture, and announce "Up" to the grader.

(6) Give the command to FIRE.

(7) Engage the target given in the fire command until you hit it. Fire any remaining rounds at the second target. You need no other fire command. Before firing, you must know the procedure to follow in the event of a stoppage. For each round you fire, your assistant announces "Hit" or "Miss."

e. **Station 3, Task 4, Midrange Position (NBC), Point Target.**

(1) Put on, clear, and check your mask within nine seconds. Within the next six, pull the hood over your head and zip the front of it closed.

(2) Load one of the three rounds allotted.

(3) When you receive the following fire command, repeat each element as it is given:

```
FIRE MISSION
FRONT
3 ROUNDS
150 (BUNKER)
AT MY COMMAND
```

(4) Acquire the proper sight picture, and announce "Up" to your assistant.

(5) Have your assistant signal the tower operator that you are ready.

(6) When the tower operator gives the command to commence firing, engage the target given in the fire command until you hit it. For each round you fire, your assistant announces "Hit" or "Miss."

f. **Station 3, Task 5, Midrange Position (NBC), Area Target.**

(1) Load one of the three rounds allotted.

(2) When you receive the following fire command, repeat each element as it is given:

```
FIRE MISSION
FRONT
3 ROUNDS
200 (AUTOMATIC WEAPON POSITION)
AT MY COMMAND
```

(3) Acquire the proper sight picture, and announce "Up" to your assistant.

(4) Have your assistant signal the tower operator that you are ready.

(5) When the tower operator gives the command to FIRE, engage the target. Engage the target given in the fire command until you hit it. For each round you fire, your assistant announces "Hit" or "Miss. "

5-12. DAY RECORD FIRE QUALIFICATION STANDARDS

Before firing, each grenadier must know the tasks, the time and ammunition required, the procedures to follow if a stoppage occurs, the penalties for failure to stop firing when commanded or signaled to do so, and the method used for scoring targets.

a. **Time and Ammunition.** Each grenadier determines the target and its distance before loading any rounds. When the grenadier receives the command to FIRE, the time allotted for that task in Firing Table I begins.

b. **Stoppages.** The grenadier must apply immediate action procedures if a stoppage occurs. If he can reduce the stoppage, he can continue to fire the course. The trainers allow each grenadier an extra 15 seconds for each application of immediate action.

(1) If a stoppage occurs that you cannot reduce by immediate action, raise your hand and announce "Time."

(2) When you say "Time," the assistant trainer notes the time, ensures that a real stoppage exists, and tries to clear the stoppage. If he clears it, you can complete firing. If he is unable to clear it, the grader will clear it, and you will be allowed 15 seconds for each round remaining to complete firing.

(3) If you made an error that caused the stoppage, you do not receive extra time, and your score consists only of whatever you had earned when the stoppage occurred.

(4) If the grenade launcher must be replaced, you are allotted 10 rounds to zero a new one, then you may repeat the exercise.

(5) If malfunctions prevent you from finishing the exercise in the time allowed, you can finish it in an "alibi run" after all other grenadiers complete firing.

c. **Penalties.** Five points are deducted from the score of any grenadier who fails to stop firing when the trainer commands or signals to do so. If a grenadier fires at the wrong target, he loses the rounds allotted for the other target, which leaves him only the remainder of his rounds to expend on both targets.

d. **Target Scoring.** The trainer or assistant trainer records scores on DA Form 2946-R. They determine whether each grenade fired is a hit or miss, then assign 0 points for a miss or 10 points for a hit. Tasks 1 through 3 each consist of two targets, so the total available for each of these tasks is 20 points. The grenadier may select which of the two targets to engage first. If he scores a hit on the first, the trainer permits him to engage the second, and he returns all unexpended rounds to the assistant trainer. Tasks 4 and 5 each consist of firing one target, for a total of 10 points each.

(1) ***Window or door.*** To score a hit on a window or door, the grenade must either strike the target or go through the opening in the center of the target.

(2) ***Bunker.*** To score a hit on the bunker the grenade must strike anywhere on the face of the bunker.

(3) ***Automatic weapon.*** To score a hit on an automatic weapon, the grenade must strike within 10 meters of the target.

(4) ***Troops.*** To score a hit on troops, the grenade must strike within 10 meters of the target.

PROFICIENCY (PERFORMANCE) EXAMINATION

This appendix provides the examination used to test grenadier proficiency in dry-fire tasks.

C-1. DESCRIPTION

The examination is a practical nonfiring exercise given during the last period of the M203 grenade launcher block of instruction before range firing. Trainers need not conduct this examination on a range, but may conduct it indoors if facilities are available. Soldiers must demonstrate proper techniques for the following tasks:

a. Perform general disassembly and assembly.
b. Set the sights.
c. Identify five standard types of 40-mm ammunition and their purposes.
d. Load, unload, and place the M203 grenade launcher on SAFE.
e. Apply immediate action.

C-2. CONDUCT OF EXAMINATION

This paragraph explains how to conduct the examination. The suggested times may help the commander plan the examination.

a. **Equipment.** The following equipment is required to conduct the proficiency examination:

(1) ***Tables.*** At Station 3, set up one table for every three soldiers being tested. At each of the other stations, set up only one table. Ensure every table has an ample supply of paper and pencils.

(2) ***Setups.*** At each station, prepare one "setup" for each soldier to be tested. A setup consists of everything one soldier needs to complete the task for that station.

(3) ***Weapons.*** Except at Station 3, include one M203 grenade launcher in each setup.

(4) ***Dummy ammunition.*** Provide twelve rounds of dummy ammunition for each setup at Stations 1 and 2 and one round of dummy ammunition for each setup at Stations 4 and 5. Station 3 does not require dummy ammunition.

b. **Time Allocation.** Time required for the examination should not exceed 3 1/2 hours, if allocated as follows:

- 15 minutes total for the orientation, instructions, breakdown, and movement.
- 30 minutes at each of the five stations (total of 2 l/2 hours).
- Two 10 minute breaks (20 minutes).
- Five 5 minute movement periods (25 minutes).

C-3. STATIONS

Five subjects and stations are recommended for this proficiency examination. This paragraph describes each station and its requirements. Figures containing the score sheets follow at the end of the appendix.

a. **Station 1--Perform General Disassembly and Assembly.**

(1) Prepare one setup for each soldier to be tested. Each setup should include one M203 grenade launcher with its breech closed and its safety on SAFE. Place each weapon on a mat to keep its parts free of dirt.

(2) Trainers should read the following statement:

> *During this period, you will be organized into three groups and will be required to disassemble and assemble the M203 grenade launcher. There will be one grader for every two weapons. You will have 8 minutes to complete the general disassembly and assembly. If you have any trouble, raise your hand, and the grader will assist you. When your group is not being tested, remain to the rear of the station with your back toward the working area until your group is called.*

(3) Trainers use the score sheet shown in Figure C-1 to grade individual performance.

(4) After each group is tested, trainers assemble the soldiers they graded and critique them thoroughly (for about 5 minutes).

b. **Station 2--Set the Sights.**

(1) Prepare one setup for each soldier to be tested. Each setup should include one M203 grenade launcher with its breech open and its safety on SAFE. Place each weapon on a mat to keep its parts free of dirt.
(2) Trainers read the following statement:

During this period, you will be organized into three groups and required to set the quadrant and sight leaf for range and windage. There will be one grader for every two weapons. You will have 4 minutes to set each sight. If you have any trouble, raise your hand, and the grader will assist you. When your group is not being tested, remain to the rear of the station with your back toward the working area until your group is called.

(3) Trainers use the score sheet shown in Figure C-2 to grade individual performance.
(4) After each group is tested, trainers assemble the soldiers they graded and critique them thoroughly (for about 5 minutes).

c. **Station 3--Identify Five Standard Types of 40-mm Ammunition and their Purposes.**
(1) Prepare one table for every three soldiers. Each soldier's setup should consist of ample paper and pencils.
(2) Trainers read the following statement:

During this period, you will be organized into three groups and required to identify five standard types of 40-mm ammunition and their purposes. There will be one grader for every two tables. You will have 10 minutes to complete the task. If you have any trouble, raise your hand and the grader will assist you. When you are not being tested, remain to the rear of the station with your back toward the working area until you are called.

(3) Trainers use the score sheet shown in Figure C-3 to grade individual performance.
(4) After testing each group, trainers assemble the soldiers they graded and critique them thoroughly (for about 5 minutes).

d. **Station 4- Load, Unload, and Place the M203 Grenade Launcher on SAFE.**
(1) Prepare one setup for each soldier to be tested. Each setup should include one dummy round and one M203 grenade launcher with its breech closed and its safety on FIRE. Place each weapon on a mat to keep its parts free of dirt.
(2) Trainers read the following statement:

During this period, you will be organized into three groups and required to load, unload, and place the M203 grenade launcher on SAFE. There will be one grader. You will have 2 minutes to complete the task. If you have any trouble, raise your hand, and the grader will assist you. When your group is not being tested, remain to the rear of the station with your back toward the working area until your group is called.

(3) Trainers use the score sheet shown in Figure C-4 to grade individual performance.
(4) After testing each group, trainers assemble the soldiers they graded and critique them thoroughly (for about 5 minutes).

e. **Station 5-Apply Immediate Action.**
(1) Prepare one setup for each soldier to be tested. Each setup should include one dummy round and one M203 grenade launcher with its breech open and its safety on SAFE. Place each weapon on a mat to keep its parts free of dirt.
(2) Trainers read the following statement:

During this period, you will be organized into three groups and required to apply immediate action. There will be one grader. You will have 2 minutes to complete the task. If you have any trouble, raise your hand, and the grader will assist you. When your group is not being tested, remain to the rear of the station with your back toward the working area until your group is called.

(3) Trainers use the score sheet shown in Figure C-5 to grade individual performance.
(4) After testing each group, trainers assemble the soldiers they graded and critique them thoroughly (for about 5 minutes).

STATION 1
CHECKLIST
Clear the M203 grenade launcher:
1. Cock the weapon, observe for extraction, place the safety in the safe position, inspect the breech, and return the barrel to the FIRE position.

Disassemble the M203 grenade launcher:
2. Remove the quadrant sight.
3. Pull back the slip ring. Lift up on the handguard, and pull it to the rear to remove it.
4. Press the barrel latch, and move the barrel forward to the barrel stop.
5. Unlock the opening of the M203 grenade launcher barrel.
6. Press the barrel stop to release the barrel from the receiver, and remove the barrel.

Assemble the M203 grenade launcher:
7. Replace the barrel, press the barrel stop, and slide the barrel into the receiver.
8. Move the barrel rearward to close it.
9. Replace the handguard and secure it with the slip ring.
10. Replace the quadrant sight.

Perform function check on M203 grenade launcher:
11. Cock the launcher and pull the trigger; hold the trigger to the rear and cook the launcher again; release the trigger, then pull it; check the safety in both SAFE and FIRE positions; check the leaf sight windage adjustment screw and the function of the barrel latch.

Figure C-1. Station 1--perform general disassembly and assembly.

STATION 2
CHECKLIST
Set first sight:
1. Place the sight in an upright position.
2. Index the windage scale.
3. Index the elevation adjustment screw.
4. Tighten the elevation adjustment screw.
5. Assume a prone supported position.
6. Set the sight for the range given, and align the sight with the target.

Set second sight:
1. Ensure that the sight is correctly mounted.
2. Open the front sight post and rear sight aperture.
3. Align the rear sight aperture with the index line.
4. Move the front sight post to its highest position, then move it back 2 1/2 turns.
5. Assume a supported prone position.
6. Set the sight for the range given, and align the sight with the

target.

Figure C-2. Station 2--set the sights.

STATION 3
CHECKLIST
1. Identify an M433 high-explosive dual-purpose round and state its purpose.
2. Identify an M406 high-explosive round and state its purpose.
3. Identify an M781 training practice round and state its purpose.
4. Identify an M583A1 star parachute round and state its purpose.
5. Identify an M713 ground marker round and state its purpose.

Figure C-3. Station 3--identify five standard types of 40-mm ammunition and their purposes.

STATION 4
CHECKLIST
Load the M203 grenade launcher:
1. Open the breech and place the weapon on safe.
2. Insert a 40-mm round into the chamber.
3. Close the breech and ensure it locks.

Unload the M203 grenade launcher:
4. Depress the barrel latch and open the breech.
5. Hold one hand under the barrel to catch the extracted round.
6. Place the weapon on safe.
7. Slide the barrel to the rear to close the breech.

Figure C-4. Station 4--load, unload and place the M203 grenade launcher on SAFE.

STATION 5
CHECKLIST
1. Load the M203 grenade launcher and try to fire.
2. Announce a misfire, and keep the weapon pointed at the target.
3. Wait 30 seconds, and clear the area before trying to unload the weapon.
4. Use extreme caution during unloading.
5. Determine whether the primer is dented (round is at fault), or not (firing mechanism at fault).

Figure C-5. Station 5--apply immediate action.

7-8. PHASE II, BASIC GUNNERY

This phase is essential to developing the trainer who is to conduct the zeroing and transition day and night record firing for the M203.

Task 1. Conduct day record fire of the M203 on the grenade launcher range.

Equipment needed. The demonstration crew should have an M203 grenade launcher, a zeroing target, stop watches, a cleaning rod, rags, and CLP. They should also have sound equipment for use during firing.

Class organization. Preferably, one grenadier, one assistant grenadier, and one assistant trainer should be allotted per station. Every soldier required neither on the station nor to help operate the range should receive concurrent training.

Sequence of training. Before the conference and firing demonstration, the trainer briefly reviews range estimation and techniques of adjustment. The grenadiers zero their weapons prior to training. The station trainers requires the grenadiers to be in the correct firing position before letting them fire. The assistant may assist the grenadier in locating the targets, but he is not permitted to aid in range estimation of fire adjustments. At the completion of this exercise, the grenadier and assistant rotate.

Task 2. Conduct night record fire of the M203 on the grenade launcher range.

Equipment needed. This is the same as for Task 2, to include an AN/PVS-4 with an M203 mount or an AN/PVS-7 with aiming stakes.

Class organization. This is the same as for Task 2.

Sequence of training. This is the same as for Task 2.

Section III. TRAINERS' CERTIFICATION

The trainers' certification portion of the train-the-trainer program is designed to sustain training expertise and to develop methods of training. Trainers' certification standardizes procedures for certifying M203 gunnery trainers. It also supports the intent of the TRADOC Regulation 350-6 directives for cadre professional development. Trainers' technical expertise must be continuously refreshed, updated, and closely managed.

7-9. TRAINING BASE

The training base has personnel turnover just as do other organizations. Soldiers assigned as M203 trainers have different backgrounds and knowledge of training procedures and methods. Trainers' certification is an ongoing process that addresses these variables. Formal records document each trainer's progress. M203 trainers must complete the three phases of trainers' certification in order, and must update their training quarterly. One of the goals of trainers' certification is to help trainers understand the training mission, which helps them support grenadiers.

7-10. CERTIFICATION OUTLINE

Before they can be certified, trainers attend all phases of the program then, under the supervision of the chain of command, conduct the phases. They must demonstrate that they can train soldiers as well as diagnose and correct problem areas. Phases occur in the following sequence:

Phase I, Orientation. During this phase, the new trainer must accomplish the following and obtain certification from the chain of command:

(1) Attend briefing on the concept of trainers' certification.
(2) Attend briefing on the unit's marksmanship training strategy.
(3) Review the unit's marksmanship training outlines.
(4) Review issued reference material.
(5) Visit training sites and firing ranges.

Phase II, Preliminary Marksmanship Instruction. During this phase, the trainer must demonstrate his mastery of the fundamentals of marksmanship, his ability to diagnose problem areas, and his ability to train others to standards. This phase should be completed within two weeks after Phase I. The following M203 marksmanship fundamentals are reviewed by the chain of command. The results of their review are recorded and maintained on the trainer's progress sheet:

- Characteristics.

- Capabilities.
- Disassembly.
- Cleaning, lubricating, and inspecting.
- Assembly.
- Malfunctions, stoppages, and immediate action.
- Types and capabilities of standard 40-mm ammunition.
- Range estimation.
- Classes of fire.
- Application of fire.

Phases III and IV, Gunnery Training.

Phase III. During this phase, the trainer must demonstrate his ability to set up and conduct firing on the various ranges. He must brief the chain of command to convince them that he can understand the reason for firing, the targetry, and the zeroing and scoring procedures. He must also be able to explain the purpose of transition, night, and NBC firing exercises. The results of this interview are recorded and maintained on the trainer's progress sheet.

Phase IV. During this phase, the trainer's knowledge is tested completely. The trainer sets up a range and trains at least one person. If ammunition is available, he conducts a firing exercise. If no ammunition is available, the testing is based on the quality of his training.

7-7. PHASE I, PRELIMINARY MARKSMANSHIP INSTRUCTION

This paragraph discusses how trainers teach soldiers to maintain their assigned weapons.
Task 1. Disassemble the M203 grenade launcher.
Equipment needed. The trainer displays the M203 on a table. This allows students to see the parts as he removes them. He can use nomenclature charts or mats to help explain the mechanics and to help the grenadiers learn the names of parts.
Class organization. Ideally, the trainer assigns one assistant trainer and grenade launcher to each group; otherwise, the trainer may have assistant trainers supervise assigned groups.
Sequence of training. The trainer presents a brief history of the grenade launcher. He discusses the combat role and missions of the weapon and the purpose, scope, and importance of this training. He briefly describes the operation of the weapon, and provides general data and exterior nomenclature of the grenade launcher. Assistant trainers should disassemble the grenade launcher as the trainer explains the procedures. Then the grenadiers practice disassembling the weapon until they can demonstrate their skill to an assistant trainer. This training approach encourages practice during free time, which develops individual skills and initiative. The trainer stresses that this task must be performed *carefully* to avoid damaging parts of the grenade launcher.
Task 2. Inspect the M203 grenade launcher.
Equipment needed. This is the same as for Task 1, plus one dummy round per weapon.
Class organization. This is the same as for Task 1.
Sequence of training. The trainer emphasizes meticulous cleaning, lubricating, inspecting, and preventive maintenance to ensure smooth weapon performance. He discusses how important smooth-functioning weapons are to a unit in combat conditions, which are the final test of the weapon maintenance program. He continues training to increase the grenadier's knowledge of M203 nomenclature and skill in disassembling the weapon. He stresses the importance of frequent inspections as a means of ensuring the grenade launcher is properly maintained.
Task 3. Clean the M203 grenade launcher.
Equipment needed. The trainer needs rags, CLP, one bore-cleaning brush, and one dummy round for each weapon. He should display all of these.
Class organization. This is the same as for Task 1.
Sequence of training. This is the same as for Task 2. The trainer discusses the additional care and cleaning required after an NBC attack. He again emphasizes the importance of frequent inspections as a means to ensure proper maintenance.
Task 4. Lubricate the M203 grenade launcher.
Equipment needed. This is the same as for Task 2.
Class organization. This is the same as for Task 1.
Sequence of training. This is the same as for Tasks 2 and 3.
Task 5. Assemble the M203 grenade launcher.
Equipment needed. This is the same as for Task 1.
Class organization. This is the same as for Task 1.
Sequence of training. This is the same as for Task 1.
Task 6. Explain the operation of the M203 grenade launcher.
Equipment needed. Each two-soldier group requires one M203 grenade launcher, which should be placed on a table, along with a dummy round and cleaning rod, before training begins.
Class organization. This is the same as for Task 1.
Sequence of training. The trainer explains and demonstrates the proper method of loading, unloading, and clearing the grenade launcher, stressing safety throughout.
Task 7. Explain the functioning of the M203 grenade launcher.
Equipment needed. Graphic training aids are useful if the class is about platoon-sized; otherwise, these aids may be made available for study and discussion during breaks. The trainer uses one grenade launcher for each two-soldier group, as in previous mechanical training.
Class organization. This is the same as for Task 1.
Sequence of training. The trainer divides functioning into its eight steps--unlocking, cocking, extracting, ejecting, loading, chambering, locking, and firing. Using the grenade launcher assigned to each group, assistant trainers duplicate each demonstration for the benefit of the students (Chapter 2). The students learn how the weapon functions by watching the parts work, rather than by memorizing the text. The trainer tests retention by asking questions about the eight steps.

Task 8. Explain malfunction, stoppage, and immediate action.
Equipment needed. This is the same as for Task 1.
Class organization. This is the same as for Task 1.
Sequence of training. The trainer may use the malfunction and stoppage charts as a guide for presenting training (Tables 4-1 and 4-2). He discusses precise application of the procedures on the charts then, as grenadiers progress, he shifts his emphasis to speed. Throughout his discussion he emphasizes safety precautions.
Task 9. Identify types and capabilities of standard 40-mm ammunition.
Equipment needed. This is the same as for Task 1.
Class organization. This is the same as for Task 1.
Sequence of training. The trainer may use the ammunition chart as a guide for presenting training (Figure 3-7). He stresses the importance of knowing ammunition types, their characteristics, and their capabilities. He also stresses why 40-mm ammunition not designed for the M203 grenade launcher *must not be used.*

3-5. CLEARING PROCEDURES

The soldier must clear the weapon before performing maintenance on it. FM 23-9 provides instructions for clearing the M16-series rifles. To clear the grenade launcher--

a. Push in the release button, and pull the barrel forward.
b. Watch to see if a round extracts.
c. Place the safety on SAFE.
d. Inspect the breech to ensure a round is not present.
e. Pull the barrel to the rear until it clicks. This cocks the weapon.
f. Place the safety on FIRE.

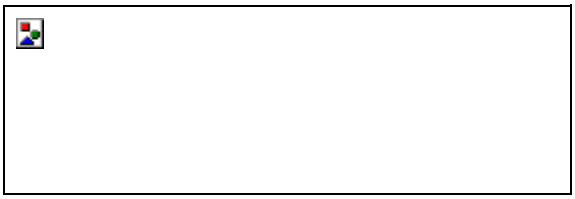
3-7. CLEANING AND LUBRICATION

After firing the grenade launcher, or if it has been idle for a long time, the soldier must clean and lubricate it as follows:

a. **Bore.** Attach a clean, dry rag to the thong, and thoroughly moisten the rag with CLP. Pull the rag through the bore several times. Attach the bore brush to the thong, pull it through the bore several times, and follow this with more rags moistened with CLP (Figure 3-18). Pull dry rags through the bore, and inspect each rag as it is removed. The bore is clean when a dry rag is removed unfouled. Pull a rag lightly moistened with CLP through the bore to leave a light coat of lubricant inside the barrel.

b. **Breech Insert.** Clean the face of the breech insert with a patch and CLP. Remove this CLP with dry rags, then lubricate the breech with a new, light coat of CLP.

c. **Other Parts.** Use a brush and dry rags to clean all the other parts and surfaces. After cleaning, apply a light coat of CLP to the outside of the launcher.



d. **Safety Mechanism.** Clean the safety mechanism properly with CLP, then lubricate it with CLP.

e. **Special Lubrication Requirements.** Lubricate the grenade launcher only with CLP and IAW the following environmental guidelines:

(1) ***Extreme heat.*** Lubricate with CLP, grade 2.

(2) ***Damp or salty air.*** Clean the weapon and apply CLP, grade 2, frequently.

(3) ***Sandy or dusty air.*** Clean the weapon and apply CLP, grade 2, frequently. Remove excess CLP with a rag after each application.

(4) ***Temperatures below freezing.*** When the weapon is brought in from a cold area to a warm area, keep it wrapped in a parka or blanket, and allow it to gradually reach room temperature. If condensation forms on the weapon, dry and lubricate it at room temperature with CLP, grade 2, before returning it to cold weather. Otherwise, ice will form inside the mechanism.

NOTE: Although CLP provides the required lubrication at temperatures down to -35°F (-37°C), it will not flow from a 1/2-ounce bottle at temperatures below 0°F (-17°C).

CHAPTER 5 (Cont.)

MARKSMANSHIP TRAINING

Section II. BASIC GUNNERY

Basic gunnery allows the grenadier to zero and apply the fundamentals of marksmanship during live-fire exercises in day, night, and NBC conditions.

5-9. ZEROING THE M203 GRENADE LAUNCHER

A correct zero consists of the elevation and windage sight settings that enable the grenadier to hit the point of aim at a given range with one of the three sighting systems: leaf, quadrant (discussed here), or nightsight (discussed later in the chapter). To zero the M203 using either the leaf sight or quadrant sight, the grenadier engages a target at 200 meters. (The M203 is normally zeroed using only the quadrant sight, but may be zeroed with only the leaf sight, or with both sights):

a. **Zeroing the Leaf Sight.** A red mark at 50 meters on the leaf sight reminds the grenadier not to zero at this range.

(1) Select a target at 200 meters.

(2) Place the sight in the upright position.

(3) Place the center mark of the windage scale on the index line on the rear of the sight base.

(4) Loosen the elevation adjustment screw on the leaf sight; place the leaf sight's index line on the sight mount's center elevation mark.

(5) Tighten the elevation adjustment screw.

(6) Assume a prone supported firing position.

(7) Load one round of 40-mm HE or TP ammunition.

(8) Use correct sighting and aiming procedures to align the target with the front leaf sight.

(9) Fire a round, sense the impact, and adjust the sight.

(a) *Windage.* Turn the sight windage screw clockwise to move the leaf sight to the left, and vice versa. One increment moves round impact 1 1/2 meters at a range of 200 meters.

(b) *Range.* Use a 40-mm cartridge case and turn the elevation adjustment screw to raise the leaf sight (this increases range) or to lower the leaf sight (this decreases range). Turning the screw one increment moves round impact 10 meters at a range of 200 meters.

(10) Fire two more cartridges, readjusting the sight after each. Once a round impacts within 5 meters of the target, the weapon is zeroed.

(11) After you have zeroed the weapon, record the zero data on your scorecard. As soon as you can, transfer the information to a separate (small) piece of paper, and tape this inside the M16 pistol grip.

b. **Zeroing the Quadrant Sight.**

(1) Select a target at 200 meters.

(2) Ensure that the quadrant sight is correctly mounted on the rifle's carrying handle.

(3) Open the front sight post and rear sight aperture.

(a) Move the *front sight post* to its highest position, then back 2 1/2 turns.

(b) Depress the rear sight retainer. Slide the *rear sight aperture* to the left until its white index line aligns with the edge of the sight aperture arm.

(4) Move the sight latch rearward, and reposition the quadrant sight arm to zeroing range (200 meters).

(5) Assume a prone supported firing position.

(6) Use correct sighting and aiming procedures to align the target with the front sight post and rear sight aperture.

(7) Load one round of 40-mm HE or TP ammunition.

(8) Fire a round, sense the impact, and adjust the sight.

(a) *Elevation.* Turn the front sight post right to decrease or left to increase elevation. At a range of 200 meters, one full turn equals 5 meters.

(b) *Windage.* Press the sight aperture retainer; move the rear sight aperture away from the barrel to move the trajectory to the left, or vice versa. At a range of 200 meters, one notch on the rear sight aperture equals 1 1/2 meters.

(9) Fire two more cartridges, readjusting the sights after each. If the round lands within 5 meters of the target, the weapon is zeroed.

(10) After you have zeroed the weapon, record the zero data on your scorecard. As soon as you can, transfer this information to a separate (small) piece of paper, and tape this inside the M16 pistol grip.

5-10. OVERALL QUALIFICATION STANDARDS

To qualify with an M203, a grenadier must perform to prescribed standards and must score at least 60 of 90 possible points. Each target hit is worth 10 points. Zeroing is not included on the scorecard, because the weapon must be zeroed before qualification firing. However, the zero data should already have been entered on the scorecard when the

weapon was zeroed. HE familiarization may be included in qualification firing, but is not scored. DA FORM 2946-R (40-MM Grenade Launcher Scorecard) is used for qualification firing and is provided in the back of this manual. This form must be locally reproduced on 8 1/2 by 11-inch paper. Figure 5-11 shows an example completed scorecard. Ratings are awarded based on the point chart on the scorecard.

FIGURE 5-11. EXAMPLE COMPLETED DA FORM 2946-R, 40-MM GRENADE LAUNCHER SCORECARD.

5-11. DAY RECORD FIRE

Day record fire gives the grenadier the confidence and experience he needs to progress from dry-firing exercises to record fire. Day record fire includes two NBC tasks (Tasks 4 and 5). All soldiers must be prepared to accomplish their missions, even in protective clothing. This exercise is conducted on a grenade launcher range IAW Firing Table I (Table 5-1). Before they fire for qualification, grenadiers must first zero their weapons. They receive instruction on the objectives, range, targets, and qualification standards. Each firing order consists of two grenadiers, one of whom assists. The unit is organized in firing orders based on range constraints. Grenadiers fire this exercise from the following fighting positions: kneeling supported, midrange supported, long-range supported, NBC midrange point target, and NBC midrange area target. For each of these tasks, the grenadier can designate which target he will engage first.

WARNING
BEFORE ALLOWING ANYONE TO MOVE BETWEEN STATIONS, ENSURE THAT ALL RIFLES AND GRENADE LAUNCHERS HAVE BEEN CLEARED, THAT BOLTS REMAIN TO THE REAR, AND THAT BARREL ASSEMBLIES REMAIN IN THE OPEN POSITION. ANYONE OBSERVING AN UNSAFE ACT SHOULD CALL "CEASE FIRE" AND NOTIFY RANGE PERSONNEL IMMEDIATELY.

a. **Station 1, Zeroing.** The grenadier zeroes with both quadrant and leaf sights at Station 1.

(1) ***Leaf sight.*** From a prone supported firing position, fire to zero the weapon. This reinforces the experience gained during dry firing and allows practice in loading and firing with the most accurate sensing and adjustments obtainable. If you zero in three rounds, use the other two rounds to confirm the zero. If you cannot zero with five rounds, you are removed from the firing line for remedial training.

(a) Prepare the sight for zeroing.

(b) Assume a good prone supported firing position.

(c) When you receive the following fire command, repeat each element as it is given:

GRENADIER

```
FRONT
200 (ZERO PANEL)
ONE ROUND
COMMENCE FIRING
```

(d) Load one round, obtain the proper sight picture, and announce "Up" to your assistant.

(e) When the tower operator gives the command to commence firing, fire one round at the panel marked "Z."

(f) Sense the impact of the round. If the round did not land within 5 meters of the zero panel, adjust the sights for windage and elevation.

(g) Repeat until a round lands within 5 meters of the zero panel.

(h) Once you have zeroed the weapon, record the zero data on your scorecard. As soon as you can, transfer the information to a separate (small) piece of paper, and tape this inside the M16 pistol grip.

(2) ***Quadrant sight.*** From a prone supported firing position, fire to zero the weapon. This reinforces the experience gained during dry firing and gives you practice in loading and firing with the most accurate sensing and adjustments you can obtain. The steps for zeroing with the quadrant sight are the same as those for zeroing with the leaf sight.

b. **Station 2, Task 1, Kneeling Position.** (Only TP rounds may be used at this station.)

(1) When you receive the command DESIGNATE THE TARGET, identify the target you intend to engage by announcing "Window" or "Bunker. "

(2) When you receive the command DETERMINE THE RANGE, announce the range to the target.

(3) Load one of the three rounds allotted. Because HE may not be fired at ranges of less than 165 meters on the basic grenade launcher range, use only TP rounds.

(4) When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
3 ROUNDS
100 (WINDOW) OR 115 (BUNKER)
COMMENCE FIRING
```

(5) Acquire the proper sight picture and announce "Up" to the grader.

(6) Engage the target given in the fire command until you hit it. Fire any remaining rounds at the second target. You need no other fire command. For each round you fire, your assistant announces "Hit" or "Miss."

.	Time	Rounds	Type	Target and Range
Task 1	2	3	TP	Window at 90 to 100 meters:

	minutes			bunker at 105 to 115 meters
Task 2	2 minutes	3	TP	Bunker at 135 to 150 meters; automatic weapon at 200 to 250 meters
Task 3	2 minutes	3	TP	Troops in open emplacement at 275 to 300 meters; troops in open at 325 to 350 meters
Task 4	2 minutes	3	TP	Bunker at 135 to 150 meters
Task 5	2 minutes	3	TP	Automatic weapon at 200 to 250 meter

Table 5-1. Firing Table I, day record fire qualification.

c. **Station 3, Task 2, Midrange Position.**

(1) When you receive the command DESIGNATE THE TARGET, identify the target you intend to engage by announcing "Bunker" or "Automatic weapon."

(2) When you receive the command DETERMINE THE RANGE, announce the range to the target.

(3) Load one of the three rounds allotted.

(4) When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
3 ROUNDS
150 (BUNKER) or 250 (AUTOMATIC WEAPON)
COMMENCE FIRING
```

(5) Acquire the proper sight picture, and announce "Up" to the grader.

(6) Engage the target given in the fire command until you hit it. Fire any remaining rounds at the second target. You need no other fire command. For each round you fire, your assistant announces "Hit" or "Miss. "

d. **Station 4, Task 3, Long-Range Supported Position.**

(1) When you receive the command DESIGNATE THE TARGET, identify the target you intend to engage by announcing "Troops in the open emplacement" or "Troops in the open. "

(2) When you receive the command DETERMINE THE RANGE, announce the range to the target.

(3) Load one of the three rounds allotted.

(4) When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
```

```
3 ROUNDS
300 (TROOPS IN THE OPEN)
COMMENCE FIRING
```

(5) Acquire the proper sight picture, and announce "Up" to the grader.

(6) Give the command to FIRE.

(7) Engage the target given in the fire command until you hit it. Fire any remaining rounds at the second target. You need no other fire command. Before firing, you must know the procedure to follow in the event of a stoppage. For each round you fire, your assistant announces "Hit" or "Miss."

e. **Station 3, Task 4, Midrange Position (NBC), Point Target.**

(1) Put on, clear, and check your mask within nine seconds. Within the next six, pull the hood over your head and zip the front of it closed.

(2) Load one of the three rounds allotted.

(3) When you receive the following fire command, repeat each element as it is given:

```
FIRE MISSION
FRONT
3 ROUNDS
150 (BUNKER)
AT MY COMMAND
```

(4) Acquire the proper sight picture, and announce "Up" to your assistant.

(5) Have your assistant signal the tower operator that you are ready.

(6) When the tower operator gives the command to commence firing, engage the target given in the fire command until you hit it. For each round you fire, your assistant announces "Hit" or "Miss."

f. **Station 3, Task 5, Midrange Position (NBC), Area Target.**

(1) Load one of the three rounds allotted.

(2) When you receive the following fire command, repeat each element as it is given:

```
FIRE MISSION
FRONT
3 ROUNDS
200 (AUTOMATIC WEAPON POSITION)
AT MY COMMAND
```

(3) Acquire the proper sight picture, and announce "Up" to your assistant.

(4) Have your assistant signal the tower operator that you are ready.

(5) When the tower operator gives the command to FIRE, engage the target. Engage the target given in the fire command until you hit it. For each round you fire, your assistant announces "Hit" or "Miss. "

5-12. DAY RECORD FIRE QUALIFICATION STANDARDS

Before firing, each grenadier must know the tasks, the time and ammunition required, the procedures to follow if a stoppage occurs, the penalties for failure to stop firing when commanded or signaled to do so, and the method used for scoring targets.

a. **Time and Ammunition.** Each grenadier determines the target and its distance before loading any rounds. When the grenadier receives the command to FIRE, the time allotted for that task in Firing Table I begins.

b. **Stoppages.** The grenadier must apply immediate action procedures if a stoppage occurs. If he can reduce the stoppage, he can continue to fire the course. The trainers allow each grenadier an extra 15 seconds for each application of immediate action.

(1) If a stoppage occurs that you cannot reduce by immediate action, raise your hand and announce "Time."

(2) When you say "Time," the assistant trainer notes the time, ensures that a real stoppage exists, and tries to clear the stoppage. If he clears it, you can complete firing. If he is unable to clear it, the grader will clear it, and you will be allowed 15 seconds for each round remaining to complete firing.

(3) If you made an error that caused the stoppage, you do not receive extra time, and your score consists only of whatever you had earned when the stoppage occurred.

(4) If the grenade launcher must be replaced, you are allotted 10 rounds to zero a new one, then you may repeat the exercise.

(5) If malfunctions prevent you from finishing the exercise in the time allowed, you can finish it in an "alibi run" after all other grenadiers complete firing.

c. **Penalties.** Five points are deducted from the score of any grenadier who fails to stop firing when the trainer commands or signals to do so. If a grenadier fires at the wrong target, he loses the rounds allotted for the other target, which leaves him only the remainder of his rounds to expend on both targets.

d. **Target Scoring.** The trainer or assistant trainer records scores on DA Form 2946-R. They determine whether each grenade fired is a hit or miss, then assign 0 points for a miss or 10 points for a hit. Tasks 1 through 3 each consist of two targets, so the total available for each of these tasks is 20 points. The grenadier may select which of the two targets to engage first. If he scores a hit on the first, the trainer permits him to engage the second, and he returns all unexpended rounds to the assistant trainer. Tasks 4 and 5 each consist of firing one target, for a total of 10 points each.

(1) ***Window or door.*** To score a hit on a window or door, the grenade must either strike the target or go through the opening in the center of the target.

(2) ***Bunker.*** To score a hit on the bunker the grenade must strike anywhere on the face of the bunker.

(3) ***Automatic weapon.*** To score a hit on an automatic weapon, the grenade must strike within 10 meters of the target.

(4) ***Troops.*** To score a hit on troops, the grenade must strike within 10 meters of the target.

5-13. MOUNTING THE AN/PVS-4

The grenadier must mount the AN/PVS-4 to the weapon before he zeroes it, and he must do both before he can qualify with the M203 grenade launcher. To mount the scope, he must--

a. Remove the quadrant sight.

b. Position the mounting bracket assembly on the left side of the rifle so that the two clamps project through the opening under the handle. Loosen the wing nuts completely (Figure 5-12).

c. Turn the clamp plates so that the pointed ends are in the UP position and are seated against the handle.

d. Tighten the wing nuts clockwise until the mounting bracket is secure against the weapon.

e. Position the sight in the groove on top of the bracket, and align the threaded hole in the base of the sight mounting adapter with the lever screw assembly. Tighten the screw clockwise firmly to secure the sight to the bracket.

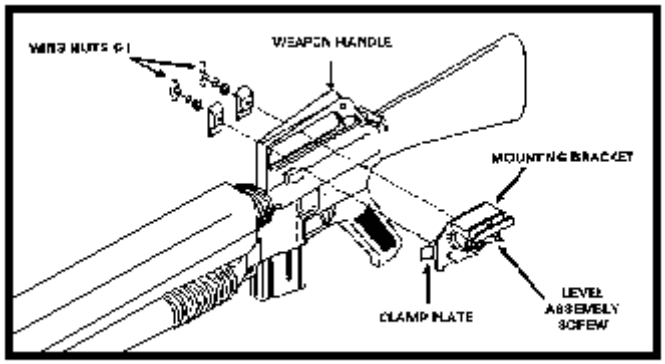


Figure 5-12. Installing the mounting bracket.

5-14. ZEROING THE AN/PVS-4 TO THE M203

After the nightsight is mounted on the M203, it is zeroed to the M16. This must be done *before* the nightsight can be zeroed to the M203. FM 23-9 provides instructions for doing this. Then the M16 is used to zero the nightsight to the M203. The grenade launcher rounds are fired only to confirm the zero. To zero the nightsight to the M203--

a. **Center the Reticle Pattern.** Use the aiming points on the nightsight reticle (Figure 5-13) and the range settings on the mounting bracket. Center the nightsight's reticle pattern within the field of view (FOV). Note that it may not be centered even if it appears to be. To ensure it is, rotate the *azimuth control knob* either way until it stops. Then, rotate it back the opposite way, counting the number of clicks until it stops again (this may be any number of clicks between 200 and 600). Divide the number of clicks in half, and rotate

the knob in the original direction by that number of clicks. For example, if the total number of clicks is 500, rotate the knob back 250 clicks in the original direction. Center the elevation using the same procedure with the *elevation control knob.* The total amount of elevation clicks also varies between 200 and 600.

b. **Adjust the Reticle Pattern.** Before adjusting the reticle pattern, the grenadier should fire three 5.56-mm rounds, then retighten the mount wing nuts to securely seat the sight. Once this is done, the grenadier fires at a 10-meter target, because hitting and spotting this target is easier than hitting a 25-meter target. This procedure may be performed in daylight using the daylight cover:

(1) Turn the sight on and adjust the reticle intensity to the desired level of illumination.

(2) Place an M16 25-meter target at 10 meters and stabilize the weapon.

(3) Fire a 5.56-mm round at the center of the target and mark the hole the round makes.

(a) If the round misses the entire target, reseat the sight exactly as previously described.

(b) If the round hits the target but not within 20 centimeters (8 inches) of the center, adjust the azimuth and elevation controls to bring the impact point toward the center of the target, then fire a second round. Continue to fire single rounds and adjust the controls until the rounds strike within the desired distance from the center.

(4) Once the reticle is adjusted, move the 25-meter target out to 25 meters and zero the grenade launcher. DO NOT REMOVE the nightsight from the weapon until you have obtained a zero.

c. **Zero at 25 Meters.** This zero is not recorded. To obtain a 25-meter zero, the grenadier must--

(1) Stabilize the weapon.

(2) Center the reticle's zeroing range aiming point on the target aiming point (center of the target) (Figure 5-13). Fire until you obtain a good three-round shot group. Triangulate and locate the center of the shot group.

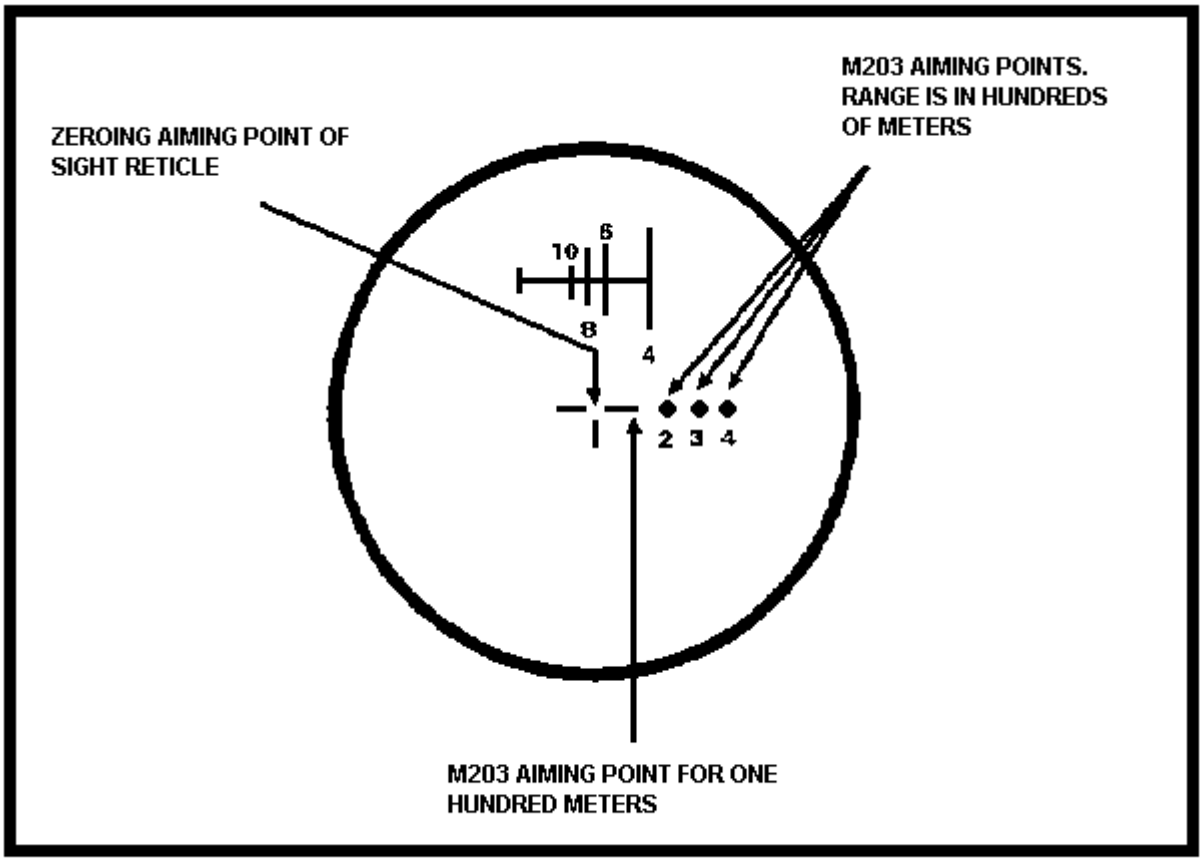


Figure 5-13. Aiming points.

NOTE: Even if the nightsight is dismounted and remounted on the same weapon, some changes in its zeroing will occur, so it must be zeroed again.

(3) Turn the azimuth and elevation control knobs to adjust the sight reticle. Move the center of the shot group 9.8 centimeters (3 7/8 inches) below and 4.2 centimeters (1 5/8 inches) to the right of the target aiming point (Figure 5-14). For example, if the shot group is high and to the left of the desired impact point, adjust the elevation down (DN) and the azimuth right (RT). One click of the azimuth or elevation adjustment moves the strike of the round .63 centimeter (1/4 inch) at a range of 25 meters. Two clicks move the reticle about one square on the target.

(4) After adjusting the reticle, assume a stable position. Place the reticle aiming point on the target aiming point, and fire three more rounds.

(5) Repeat Steps 4 and 5 until the rounds strike within a 3.2 centimeter (1 1/4 inch) circle in the desired location 9.8 centimeters (3 7/8 inches) below and 4.2 centimeters (1 5/8 inches) to the right of the aiming point, or until you have fired 12 rounds, whichever occurs first. If you are unable to zero the AN/PVS-4 after 12 rounds, the trainer must send you to remedial training.

(6) Confirm the zero on the grenade launcher range using a 200-meter target. Place the nightsight into operation and use its reticle, which has two parts. Use the

vertical line in the upper part of the reticle to estimate range and the lower part to aim the weapon.

(a) Set the range as estimated on the range indicator of the mounting bracket (Figure 5-13).

(b) Engage the target, placing the aiming point of the sight reticle on the target's center of mass (Figure 5-14). Fire the weapon using all your marksmanship skills. You have confirmed the zero if two of three rounds strike within 5 meters of the target.

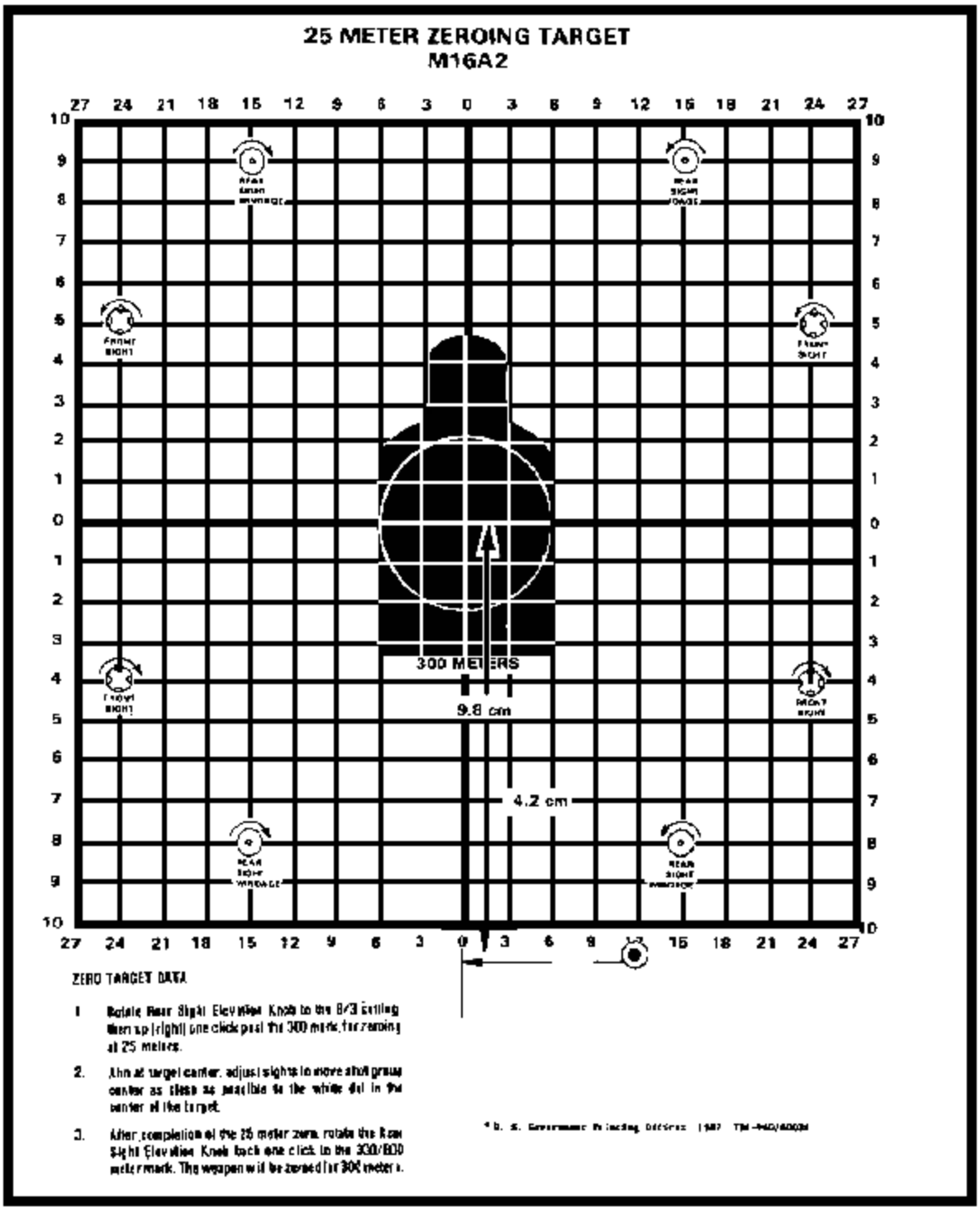


Figure 5-14. Adjustment of rounds.

FIGURE 5-14. ADJUSTMENT OF ROUNDS.

5-15. NIGHT RECORD FIRE

Night or limited visibility firing trains grenadiers to apply the fundamentals of grenade launcher marksmanship while using the AN/PVS-4 nightsight. This training increases the grenadiers' confidence. Each grenadier learns to zero the M203 to the AN/PVS-4 on the 25-meter range, then fires at one area target on the M203 grenade launcher range. The grenadiers are instructed before night firing in its objectives, fundamentals, fire commands, and targets. The unit is organized in firing orders based on the range constraints. Each firing order should consist of a grenadier and assistant. The assistant performs his duties in a manner similar to day record fire. Night record fire consists of one task: Station 3, Task 6, midrange fighting position (night), area target.

a. Load one of the three rounds allotted.

b. When you receive the following fire command, repeat each element as it is given:

```
GRENADIER
FRONT
3 ROUNDS
200 (AUTOMATIC WEAPON POSITION)
AT MY COMMAND
```

c. Acquire the proper sight picture, and announce "Up" to the grader.

d. When the grader gives the command FIRE, engage the target given in the fire command until you hit it. Fire any remaining rounds at the second target. You need no other fire command. For each round you fire, your assistant announces "Hit" or "Miss."

5-16. NIGHT RECORD FIRE QUALIFICATION STANDARDS

Before firing, each grenadier must know the tasks, the time and ammunition required for each, the procedures to follow if a stoppage occurs, the penalties for failure to stop firing when commanded or signaled to do so, and the method used for scoring targets.

a. **Time and Ammunition.** Firing Table II (Table 5-2) provides the night firing task and its time and ammunition requirements.

b. **Stoppages.** The procedure for stoppages is the same as for other qualification firing exercises.

c. **Penalties.** The procedure for penalties is the same as for other qualification firing exercises.

d. **Target Scoring.** The target-scoring procedure is the same as for other qualification firing exercises.

e. **Conditions.** Night record fire trains the grenadier to engage targets between 150 and 250 meters under ideal moonlight conditions.

Time	Rounds	Type	Target and Range
2 minutes	3	HE	Automatic weapon at 200 to 250 meters

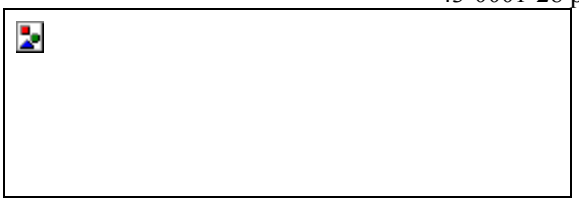
Table 5-2. Firing Table II, night firing qualification.

3-4. AMMUNITION

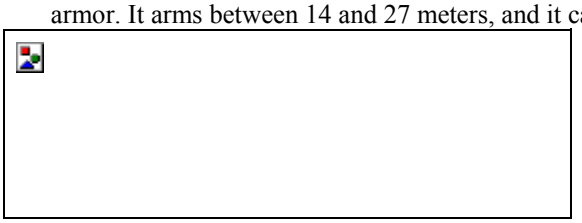
The M203 grenade launcher uses several fixed-type, low-velocity 40-mm rounds. The M203 fires high-explosive, illuminating, signaling, CS, and training ammunition. This paragraph discusses only the most commonly used ammunition.

WARNING
IF FIRED INTO SNOW, 40-MM ROUNDS MAY NOT HIT HARD ENOUGH TO DETONATE. IF AN UNDETONATED ROUND IS STEPPED ON OR DRIVEN OVER, IT MAY EXPLODE. DURING TRAINING, AVOID THIS HAZARD BY FIRING ONLY TP ROUNDS IN THE SNOW.

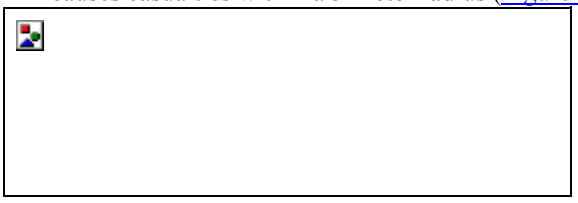
a. **Types, Characteristics, and Capabilities.** All M203 grenade launcher rounds are fixed rounds (Figure 3-7). (TM 43-0001-28 provides more details).



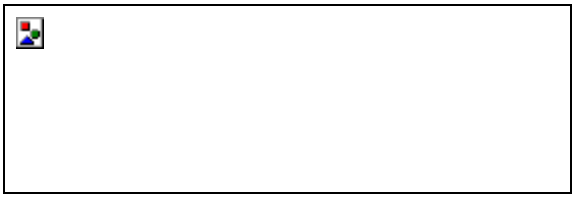
(1) ***High-explosive dual purpose (HEDP) round.*** This round has an olive drab aluminum skirt with a steel cup attached, white markings, and a gold ogive; it penetrates at least 5 cm (2 inches) when fired straight at steel armor. It arms between 14 and 27 meters, and it causes casualties within a 5-meter radius (Figure 3-8).



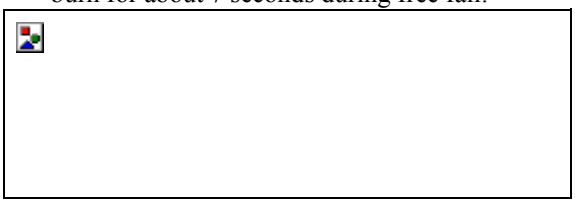
(2) ***High-explosive (HE) round.*** This round has an olive drab aluminum skirt with a steel projectile attached, gold markings, and a yellow ogive. It arms between 14 and 27 meters, and it produces a ground burst that causes casualties within a 5-meter radius (Figure 3-9).



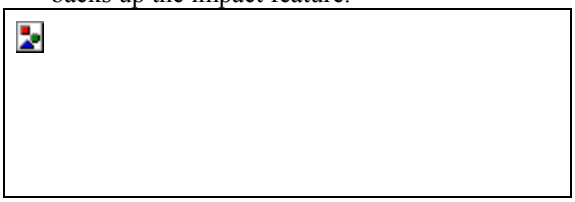
(3) ***Star parachute round.*** This round is white impact or bar alloy aluminum with black markings. It is used for illumination and signals and is lighter and more accurate than comparable hand-held signal rounds (Figure 3-10). The parachute attached to the round deploys upon ejection to lower the candle at 7 feet per second. The candle burns for about 40 seconds.



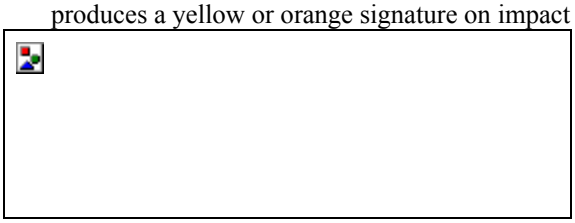
(4) ***White star cluster round.*** This round is white impact or bar aluminum alloy with black markings. The attached plastic ogive has a raised "W" for night identification. The round is used for illumination or signals (Figure 3-11). It is lighter and more accurate than comparable hand-held signal rounds. The individual stars burn for about 7 seconds during free fall.



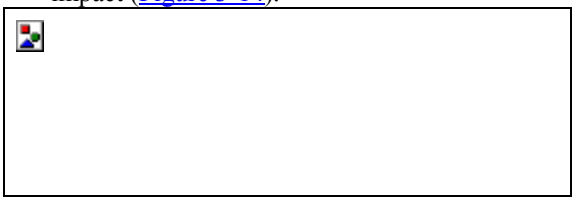
(5) ***Ground marker round.*** This round is light green impact aluminum with black markings. It is used for aerial identification and for marking the location of soldiers on the ground (Figure 3-12). It arms between 15 and 45 meters. If a fuze fails to function on impact, the output mixture provided in the front end of the delay casing backs up the impact feature.



(6) ***Practice round.*** This round is blue zinc or aluminum with white markings. It is used for practice and produces a yellow or orange signature on impact (Figure 3-13).



(7) ***CS round.*** This round body is gray aluminum; its casing is green with black markings. Though it is a multipurpose round, it is most effective for riot control and in MOUT. It produces a white cloud of CS gas on impact (Figure 3-14).



b. **Storage.** Ammunition should be stored under cover. If this is not possible, it must be stored at least 15 centimeters (6 inches) above the ground and covered with a double layer of tarpaulins. These should be placed so they protect the ammunition, allowing for ventilation. Trenches must be dug to prevent water from flowing under the ammunition.

c. **Care, Handling, and Preservation.** Ammunition containers should not be opened until ammunition is to be used. Ammunition removed from the airtight containers is likely to corrode, particularly in damp climates. Soldiers must take the following precautions:

(1) ***Protect ammunition from mud, dirt, and water.*** If it gets wet or dirty, wipe it off before using it. Also, wipe off lightly corroded cartridges as soon as the corrosion is discovered. Heavily corroded or dented projectiles and those with loose parts or particles should not be fired.

(2) ***Avoid exposing ammunition to the direct rays of the sun.*** Hot powder can cause excessive pressure when the round is fired.

(3) ***Do not lubricate ammunition.*** This can cause dust and other abrasives to collect on it and damage the operating parts of the weapon.

d. **Packaging.** Ammunition is packaged in boxes according to the type of ammunition.

(1) ***HE, HEDP, and TP.*** Each box of HE, HEDP, and TP ammunition contains 1 can with 6 bandoleers of 12 rounds each, for a total of 72 rounds.

(2) ***Smoke and cluster ammunition.*** Each wire-bound box of smoke and cluster ammunition contains 2 cans with 22 rounds each, for a total of 44 rounds.

(3) ***CS ammunition.*** Each box of CS ammunition contains 2 cans with 4 bandoleers of 6 rounds each, for a total of 48 rounds.

CHAPTER 2

OPERATION AND FUNCTION

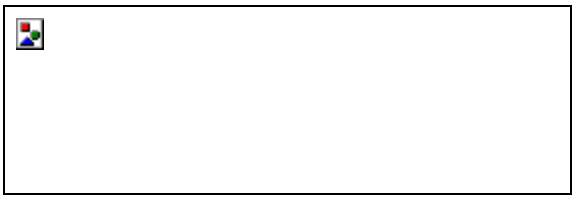
This chapter discusses the operation of the M203 grenade launcher and its function when loaded with ammunition.

2-1. OPERATION

The grenadier's operations include loading, unloading, and firing the weapon. The weapon uses a *high-low propulsion system* to fire a 40-mm round. The firing pin strikes the primer, whose flash ignites the propellant in the brass powder-charge cup inside the *high-pressure chamber*. The burning propellant produces 35,000 psi chamber pressure, which ruptures the brass powder-charge cup at the vent holes and allows the gases to escape to the *low-pressure chamber* in the cartridge case. There the pressure drops to 3,000 psi and propels the grenade from the muzzle at a velocity of 250 fps. The grenade's 37,000 rpm right-hand spin stabilizes the grenade during flight and applies enough rotational force to arm the fuze. The weapon is unloaded with the barrel open and fired from a closed bolt. The launcher must be cocked before it can be placed on SAFE.

2-2. LOADING

To load the weapon, the grenadier must first press the barrel latch and slide the barrel forward. Once the barrel is in the forward position, the grenadier places the weapon on SAFE. Then he inserts clean, dry, undented ammunition into the chamber and slides the barrel rearward until it locks with an audible click (Figure 2-1).



WARNING
KEEP THE MUZZLE POINTED DOWNRANGE AND CLEAR OF ALL SOLDIERS. **USE THE RIGHT AMMUNITION;** **NEVER USE HIGH-VELOCITY 40-MM** **AMMUNITION DESIGNATED FOR OTHER 40-MM WEAPONS SUCH AS THE MK 19;** **HIGH-VELOCITY ROUNDS ARE LONGER THAN THOSE USED IN THE M203,** **AND MAY CAUSE IT TO EXPLODE.**

LIGHTNING PROTECTION

Fort Gordon, Single Source Safety Document, Chapter 6

6-1. Troop Precautions: Notifications of severe weather will be provided in accordance with the HQ, USASC&FG Severe Weather Emergency Action Plan (SWEAP). However, commanders at all levels should be cognizant of weather situations around them that may be threatening to their troops. Up-to-date weather information/forecasts may be obtained by contacting the National Weather at 724-0056, checking the weather channel 17, contacting the Plans, Operations, and Training Division, DPTM at 791-3531 or via the Internet at http://www.weather.com/weather/uscities/GA_Augusta.html. Weather intelligence data for operations areas outside the Fort Gordon/Augusta/CSRA, may be obtained by contacting the Security Division, DPS, ATTN" ATZH-PSS.

6-2. Protective Measures: In the event warning is provided of impending electrical storm or lightning is noticed in the vicinity of Fort Gordon, the unit commander, officer or NCO in charge of the training, ceremony or event, or the senior individual present will:

a. Cease all outside activity immediately.

b. Move personnel into a building or lightning protected area, if possible.

c. Ensure all personnel remove steel helmets and stack weapons at least 50 meters away from personnel. If time is not available to stack weapons, weapons and metal helmets will be laid on the ground or on firing line rifle rest, within view of where troops will be located.

d. If a building is not available, move personnel into dense woods, a low area, or to the foot of a steep hill.

e. Ensure all personnel are moved away from fences, electrical wiring, vehicles, masses of metal, or other possible conductors of electricity.

f. Ensure personnel remain in building or other safe area until the lightning has ceased.

g. When marching in formation, troops will increase the minimum distance and interval to twice that normally maintained.

h. Radios will not be used, nor will troops carry radios with antennas extended.

i. Troops will be evacuated from areas containing television antennas, relay antennas, or vehicles with whip antennas.

j. Personnel will dismount from dozers, graders, and all other metal machinery and move to a safe distance (for example, approximately 100 yards, depending upon terrain and conditions).

k. Personnel will not huddle together, if unavoidably caught in flat, open space, or on a bare hilltop. Instead, scatter to reduce the attraction of lightning to a mass of bodies.

l. Restrict the use of telephones, computers and other electrical devices.

6-3. Lightning Casualties: Immediate attention should be directed to those who may appear to be dead. Individuals who are stunned or dazed but moving about can usually recover alone, but should be examined by medical personnel as soon as possible. Those whose breathing and/or heartbeat have stopped need immediate attention. Should such a casualty occur, a qualified person should begin artificial respiration and cardiopulmonary resuscitation, treat for shock, and evacuate to the nearest hospital emergency room.

FIRE COMMANDS

Standard fire commands are explained to grenadiers, then used during all gunnery training that follows. Trainers give the appropriate elements before each dry-fire or live-fire exercise. The grenadier performs as directed and repeats each element as it is announced. (Chapter 6 provides a detailed explanation of fire commands.)

a. **Alert.** The trainer gives the alert as a fire mission. On hearing this, the grenadier loads the weapon and moves the safety lever to FIRE.

b. **Direction.** The trainer gives the direction to target.

c. **Description.** The trainer describes the target, for example, "bunker" or "machine gun position," and the grenadier lays on the target.

d. **Range.** The trainer gives the (estimated) range to the target, for example, "150."

e. **Method of Fire.** The method of fire for either target is three rounds. On the basic range, grenadiers fire at both point and area targets.

f. **Command to Open Fire.** To open fire, the trainer commands COMMENCE FIRING or AT MY COMMAND. When ready, the grenadier announces "Up" and fires or waits for the command to fire. When all grenadiers are ready, the trainer gives the actual command to fire.

Ft. Gordon Range Control Center
BLDG. 482
N. Range Road
Ft. Gordon, GA 30905

RANGE 5

M203 40MM TPT ONLY
Standing Operating Procedures (SOP)

1 JAN 02

Fort Gordon Range Control Mission

TO SUPPORT THE COMMANDERS INTENT BY SCHEDULING, ADVISING, AND ASSISTING TRAINERS IN PROVIDING HIGHLY REALISTIC TRAINING WITHOUT COMPROMISING SAFETY. MONITOR THE ENVIROMENTAL IMPACT OF TRAINING ON FORT GORDON. CONDUCT CERTIFICATION TRAINING TO THE UNIT CADRE.

Administrative Procedures

Physical Location: Range 5 is physically located on N. Range Road adjacent to Range 4.

Grid location: LS 857945

Type of Range: Range 5 is primarily used for:
(1) M203 Qualification

Types of Weapon & Ammunition Authorized:
Weapons:
a. 40-MM Grenade Launcher M203

Ammunition:
40-mm TPT Only

Scheduling Range: This range is scheduled through the Range Facility Management Support System (RFMSS). Scheduling office is located at BLDG. #482 Range Control Headquarters. Telephone #706-791-5005/5008. DSN: 780-5005/5008. All ranges are scheduled by your S3 utilizing a RFMSS unit customer account. Non-account users may schedule via memorandum signed by units Battalion Commander or his/her representative.

OIC/RSO/MEDIC Range Check-in procedures: OIC/RSO/MEDIC will show up at Range Control at the same time to sign for the range. They will provide the following documents upon arrival at Range Control:
OIC: Current Range certification card
RSO: Current Range certification card
MEDIC: Current Medical certification CLS(Combat Life Saver) or higher and Medical Aid bag. A dedicated medical vehicle must be on site at all times.

Day of Range: OIC/RSO/MEDIC will arrive together to sign for the range. (Without these three and the proper documents the range will not be signed out)

Range Firing Hours: 0730-1630

Range Availability: Range 5 is available seven days a week. Weekend firing and extended range hours, must be requested during the RFMSS scheduling phase. If you need to go past **1630 hours** to complete your firing, request permission as soon as possible to the range control OIC.

Radio Communications: You will receive two Motorola radios when you sign for the range. Radios must be used on Channel 1 and used only for communications with Range Control. Gate guards will not be issued one of the radios.

a. Request "hot" time
b. Make hourly radio checks every hour on the hour
c. Immediately "cease fire" anytime there is a problem on the range and contact Range Control.
d. Continuously monitor Range Control frequency
e. Request "cold" time
f. Request Range Control to come out and clear you off the Range
g. Use of the Radios for anything other than communicating with Range Control is strictly forbidden.

Range Control Provides:

a. PA system.
b. Red & White safety paddles for each line safety.
c. Metal rods for rodding soldiers on and ofF the range and firing line.
d. Ammunition Point building.
e. Range Tower
f. Range SOP, and briefing on range tower operation.

Unit Provides:

- Two (2) 1-A:10B:C [dry chemical] fire extinguisher.
- Combat lifesaver/Medic, dedicated emergency vehicle and medical aid bag.
- Plastic trash bags, toilet paper
- Hearing protection.

- Drinking water.
- TM and FM on all weapon systems being fired.
- FG REG 210-21
- White tape for designating safety personnel
- Armorer's tool kit
- Weapon's cleaning equipment
- Life saver procedures
- Repair parts/spare weapons

RECORD FIRE SCORECARDS: Provided by the unit. The unit will maintain proper scoring and zero paperwork needed in use of the range.

Ricochet Hazard: It is of paramount importance that only authorized weapon systems, ammunition and target placement are utilized on this range.

Target Placement: N/A

Firing Positions Authorized:

- **Sitting Position (cross-ankled)**
- **Sitting Position (cross-legged)**
- **Squatting Position**
- **Fighting Position, Supported**
- **Standing Position**
- **Prone Supported**
- **Kneeling Position**
- **Sitting Position (open-legged)**

Courses of Fire Authorized: The following courses of fire are authorized:

a. Station 1, Zeroing
b. Station 2, Task 1, Kneeling Position
c. Station 3, Task 2, Midrange Position
d. Station 4, Task 3, Long-Range Supported Position
e. Station 3, Task 4, Midrange Position (NBC), Point Target

f. Station 3, Task 5, Midrange Position (NBC), Area Target

Night Fire: N/A

MOPP Firing: N/A

Other Uses: No other uses authorized.

Pyrotechnics Use: Pyrotechnics are not authorized for use on the range.

Special Range Planning Assistance: Special range planning assistance is available from the Range Control staff. We will assist you in every way that we can to help make your training experience safe, realistic and effective. Pay us a visit - let's discuss your ideas.

Basic Weapons Safety Procedures

The following basic weapons safety procedures will be observed:

a. When arriving and departing the range.
b. When arriving and departing the firing line.
c. While weapons are stacked with a guard posted within Arms reach.

40-MM M203 TPT

- Check the proper operation of the sear
- Check the safety in both the SAFE and FIRE positions by pulling the trigger. The launcher must be cocked before the safety can be placed in the SAFE position.
- Check the leaf sight assembly
- Move the barrel forward and back, to be sure both the stop and barrel latch function.

WEAPONS SAFETY BRIEFING

It is the responsibility of the unit OIC to ensure that the RSO conducts a "basic weapons safety briefing" for all personnel, as a group, upon

arrival at the range. Also, provide a briefing for all persons arriving after the initial briefing has been given.

PMI Instruction/Concurrent Training: Behind the firing line Dry- fire exercises, PMI (weapon drills, individual instruction, manipulation of weapons, aiming of weapons) will be supervised by an NCO and conducted in designated PMI areas only.

Hearing Protection: protection is required for all personnel, including workers and visitors, while within **50 meters** of the firing line.

Tracer Ammunition: No tracer ammunition will be used on this range. No exceptions.

Standard Targets Provided

Window, Bunker, Troops in the open, Automatic weapon positions

Medical Support: There will be a medic with an ambulance or designed vehicle on the range at all times during firing. A litter with aid bag complete will be on site.

MEDEVAC Procedures: For serious injury or illness the range OIC will contact Range Control @ 706-791-5005/5008 or by radio FM 42:000 to request Medical assistance from DDEAMC.

Severe Weather Conditions: For severe weather conditions the OIC will cease all fire when he/she identifies lighting, thundering, and severe rain. Contact range control.

Special Use Airspace (SUA): Nonparticipating aircraft may not enter the area during the time the area is being used for the purpose designated. Precautions will be taken to insure the safety of aircraft operating in the airspace near the planned trajectory of all ammunition firing. The OIC/RSO will

brief soldiers to stop firing in the event an aircraft becomes visible, and a hazard to the aircraft in flight exists.

Gate Guard Requirements: From time-to-time unauthorized persons or visitors may attempt to gain access to the range. The gate guard will be posted at all times while the range is occupied to aid in preventing the unauthorized access. At no time will the gate guard attempt to stop **RANGE CONTROL** or any **EMERGENCY** vehicle from gaining access to the range.

Environmental Compliance: Vehicle refueling operations will not be conducted on this range. All tactical vehicles will have a drip pan under the vehicle when it is parked. If a spill occurs report it to Range Control immediately. Bring plastic trash bags; take your trash with you. Using unit must clean the latrine prior to departing the range.

Pyrotechnics, Blanks, CS Gas: At **no time** will pyrotechnics, blanks, or CS gas be used on the range.

Sleeping on Range: Sleeping on the range is not allowed. It is pertinent that all soldiers stay awake and alert to help maintain a safe environment on the range.

Animals on Range: Unit mascots, such as **dogs**, are not allowed on the range.

End of Firing Comments: We encourage all **OICs** and **RSOs** to make constructive written comments on the second page of their **Range Checklist** at the completion of firing. Your input is valuable to this operation. Help us improve “your” range.

Range Safety Violations: It is not our intent to "find things wrong" with your range but rather to reduce and mitigate hazardous unsafe conditions. **OICs** and RSOs operating in an unsafe manner will cause their range to be closed - with the possibility of being decertified. All range safety violations will be forwarded to your higher headquarters and to the Garrison Commander through DPTM.

What Does Unsafe Mean: This can be explained quite simply: Operating your range in a manner that creates a dangerous situation for others; operating outside of weapons safety standards set forth in AR 385-63, USASC&FG Reg 210-21 this SOP and other applicable FM and TM guidelines.

OIC/RSO/NCOIC Duties: General duties of the unit **OIC**, **RSO**, and **NCOIC**. See AR 385-63, Chapter 4, 4-3, 4-5.

OIC Duties: The **OIC** [E7 or above] is responsible for activities that take place on all areas of the range not just the firing line. The **OIC** will stay on the range at all times.

RSO Duties: The RSO [**E6 or above**] is specifically responsible for weapons safety on all portions of the range.

Line Safety NCO's: [**E4(CPL) and above**] safety duties:
(1) Assist the **RSO** with firing line safety procedures.
(2) Observe and mitigate unsafe conditions on the firing line.
(3) Utilize red and white safety paddles for command and control.
(4) Rodding weapons on/off the range and firing line.
(5) Weapons safety checks.
(6) Bleacher safety.
(7) Providing safety related assistance for soldiers.

NCOIC: normally runs the range tower by announcing fire commands and taking directions from the **OIC**.

Red Ammunition Amnesty Box: Located in the motor pool at Range Control Headquarters.

This box is not intended for unit trash, brass or ammunition that is to be turned back into the ASP.

Munitions: Distribute small arms ammunition to troops only on the ready line or firing line. Cover all ammunition to protect it from the elements and direct rays of the sun. When any round or item of ammunition has malfunctioned further use of rounds or items will be suspended. The OIC/RSO will turn in the LOT #, DODIC, and number of unserviceable rounds to the Post Ammo Manager located at range control.

Munitions Amnesty Turn in Policy: Range Control will arrange Explosive Ordinance disposal support. Contact Range Control fire desk at 706-791-5005/5008 or by radio FM 4200. If you cannot contact Range Control, call the MP desk at 706-791-4380.

Fire-Fighting in Training Areas: Because fire potential is so great at Fort Gordon, all field units will be prepared to assist in fighting any fire which might occur. The OIC of firing issues an order to cease-fire, notify Range Control, move soldiers to a safe area, and take all commands from range control. At no time will soldiers enter the impact area to fight the fire, unless under the supervision of the fire department, or forestry. This is a year round requirement.

Upon discovering a fire outside the impact area, contact Range Control. The unit commander/OIC of an exercise will commit personnel and equipment available to fighting the fire, without soldiers being in any danger, and will continue to fight the fire until properly relieved.

HIGH HAZARD IMPACT AREA

At no time will soldiers enter into a high hazard impact area (Artillery Impact Area). A high hazard impact area is permanently designated within the training complex and used to contain sensitive high explosive ammunition and explosives and the resulting fragments, debris, and

components. High hazard impact areas are normally established as part of dedicated impact areas where access is limited and strictly controlled due to the extreme hazard of DUD ordnance (i.e., 40mm HE and other highly sensitive ammunition and explosives.

IF YOU HAVE ANY QUESTIONS PERTAINING TO THIS SOP PLEASE CONTACT RANGE CONTROL AT 706-791-5005/5008. DSN 780-5005/5008.

Ramtahal, Ramdeo
MSG, USA
Range Control OIC

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
Fort Monroe, Virginia 23651-5000

TRADOC Regulation
No. 350-29

31 December 1987

Training
PREVENTION OF HEAT AND COLD CASUALTIES

Supplementation of this regulation is permitted. However, proposed supplements must be submitted to HQ TRADOC, ATTN: ATTG-I, for approval.

1. Purpose. To prescribe policy and provide guidance to assist commanders in preventing heat and cold injuries.

2. Applicability. This regulation applies to all Active Component (AC) and Reserve Component (RC) training conducted at service schools, Army training centers (ATC), or other training activities under the control of HQ TRADOC,

3. Responsibility. Commanders and supervisors at all levels are responsible for protecting soldiers and civilian personnel from heat and cold injury,

4. General. Extremes in weather conditions pose additional problems to our training efforts and increase the risk of heat and cold injury, Successfully preventing climatic casualties depends largely on educating personnel and applying methods to reduce exposure. Additionally, to prevent heat and cold

injuries, commanders must develop procedures to alert individuals of heat stress and windchill conditions and adopt techniques to reduce the susceptibility of personnel to climatic injury.

5. Recognition and treatment. Commanders and supervisors must ensure every individual who may be exposed to unaccustomed environmental conditions is informed of the potentially serious results of climatic injuries and how to recognize and treat those injuries if they occur. The U.S. Army Training and Audiovisual Support Center (TASC) has available for use pocket-size guides for identification, first aid treatment, and preventive measures for heat (GTA 8-5-45 (appendix A)) and cold (GTA 8-6-12 (appendix B)) injuries.

a. Heat injuries that commanders should be particularly concerned with include heat cramps, heat exhaustion, and heat stroke. The symptoms and treatments for these heat injuries are listed below.

(1) Heat cramps. Heat cramps result primarily from excessive loss of salt from the body. This condition occurs when individuals who have been actively sweating don't replace the salt lost in their sweat.

(a) Symptoms. Painful contraction of muscles (normally the extremities and abdominal muscles). Body temperature is normal unless heat cramps are accompanied by heat exhaustion.

(b) Treatment. Heat cramps are promptly relieved by replacing the salt lost from the body. Move victims to a shaded area, loosen their clothing, and make them slowly drink at least one canteen of salted water (l/4 teaspoon of salt per quart of water). If salt is not available, use plain water.

(2) Heat exhaustion. Heat exhaustion occurs as a result of excessive loss of water and salt from the body.

(a) Symptoms. Profuse sweating, headache, tingling sensations, paleness of skin, shortness of breath, palpitations, trembling, nausea, and vomiting. The skin will be moist and cool; the pulse will be rapid; and the body temperature will be normal or slightly below normal. Individuals with heat exhaustion may also act slightly confused or may momentarily lose consciousness.

(b) Treatment. Move victims of heat exhaustion to a shaded area, loosen their clothing, and elevate their feet to promote the return of blood to their heart. Make them drink at least one canteen of salted water (1/4 teaspoon of salt per quart of water). Recovery is usually prompt. However, individuals suffering from heat exhaustion will be assigned to light duty for 24 to 48 hours following their recovery.

(3) Heat stroke. HEAT STROKE IS A MEDICAL EMERGENCY WITH A HIGH MORTALITY RATE. This condition, caused by overexposure to the sun or heat, results from a breakdown of the body's ability to control its temperature.

(a) Symptoms. Extremely high body temperature, sudden loss of consciousness, convulsions, delirium, headache, dizziness, weakness, and nausea, Sweating is absent in the typical case, and the skin is hot, dry, and flushed. Pulse and respiration are rapid.

(b) Treatment. Lowering the victim's body temperature as rapidly as possible is the most important objective in the treatment of heat strokes. Remove the patient's clothes, and, if any source of cool water or ice is nearby, immerse the victim in it. Otherwise, sprinkle water over the patient and fan the patient to hasten the water evaporation. Transport victims of heat stroke to the nearest medical facility as soon as possible. While awaiting transportation, keep patients in the shade with their feet elevated. If they are conscious, make them drink at least one canteen of salted water (1/4 teaspoon of salt per quart of water). Continue efforts to reduce body temperature while transporting victims.

b. Cold injuries are classified as nonfreezing (trench/immersion foot/ and hypothermia) and freezing (frostbite). Symptoms and treatments for cold injuries are listed below.

(1) Trench/immersion foot. Immersion foot or trench foot is an injury that results from fairly long exposure of the feet to wet conditions at temperatures from approximately 50 to 32 degrees fahrenheit. Inactive feet in wet socks and boots or tightly laced boots impair circulation and are even more susceptible to injury. Prolonged exposure can cause the feet to swell. Pressure closes blood vessels, cuts off circulation, and can lead to loss of parts of the feet.

(a) Symptoms. Feet are cold and reddish in color and have swelling, blistering, bleeding, and numbness.

(b) Treatment. Individuals with immersion injury should elevate and rewarm their feet gradually by exposing them to warm air. Do not moisten, massage, or apply heat or ice to feet with immersion injuries. Covering the patient with several layers of warm coverings is preferable to using extreme heat. Evacuate patients as soon as possible.

(2) Hypothermia. Hypothermia is a state in which core body temperatures of individuals are below normal because they are losing heat faster than they can produce it. General cooling of the entire body to a temperature below 95 degrees fahrenheit is caused by continued exposure to low or rapidly dropping temperatures, cold moisture, snow, or ice.

(a) Symptoms. As the body cools, the following progressive

stages of discomfort and impairment occur: shivering; faint pulse; mental confusion; slurred speech; glossy eyes; slow, shallow breathing; uncoordinated movements; unconsciousness; and irregular heart beat.

(b) Treatment. Since hypothermia is a medical emergency, prompt medical treatment is necessary. The victim's body must be rewarmed with an external heat source since the victim can't generate heat. Perform cardiopulmonary resuscitation (CPR), if necessary, and keep the victim dry and protected from the elements. Evacuate the victim as soon as possible.

(3) Frostbite. Frostbite is the injury to tissue caused from exposure to below freezing temperatures. Severe frostbite can result in loss of affected body parts such as fingers, toes, hands, or feet.

(a) Symptoms. Frostbite starts with a discoloration of the skin of the nose, ears, cheeks, fingers, or toes. This is followed by a tingling sensation for a short time and then numbness. The skin may briefly appear red for light skinned individuals or greyish for dark skinned individuals and then become pale or waxy white. Upon thawing, the signs vary with the degree of injury. Mild to moderate frostbite injury appears red and swollen, has blisters, and is painful. Severe frostbite injuries have blue-black discoloration, blood filled blisters, and an absence of pain.

(b) Treatment. Remove tight clothing or boots from the injured area. Warm the frozen body part by placing it next to the skin of another person. Keep the victim warm and covered to prevent further injury. Do not massage, expose to open fire, rub with snow, or soak injuries in cold water. Evacuate the victim to a medical treatment facility as soon as possible.

6. Heat injury prevention.

a. Reference 10e contains a comprehensive discussion of heat casualty prevention. Commanders, cadre, and other responsible officers and non-commissioned officers (NCO) must be able to identify environmental conditions under which adverse effects of heat are likely to occur. The Wet Bulb Globe Temperature (WBGT) Index and the Wet Globe Thermometer (WGT) are the best means of evaluating the degree of heat stress imposed by all environments. Commanders must use at least one of these indexes during all operations in heat and take measurements in a location which is the same as, or closely approximates, the environment to which personnel are exposed.

b. Heat conditions are classified by color (green, yellow, red, and black; in increasing order of heat stress according to Botsball (WGT) and WBGT readings. Commanders must adapt training/physical activity and uniform requirements to conform with the precautions for each heat condition listed on next page.

HEAT	BOTSBALL (WGT)	WBGT	WATER INTAKE	**ACCLI-MATIZED

CONDITION	INDEX F	INDEX F	QTS/HR	WORK/REST	UNACCLIMATIZED
*	<80	<82	1/2	50/10	Use caution in planning extremely intense physical exertion.
GREEN	80-82.9	82-84.9	1/2 to 1	50/10	Use discretion in planning heavy exercise.
YELLOW	83-85.9	85-87.9	1 to 1 ½	45/15	Suspend strenuous exercise during the first 3 weeks of training. Activities may be continued on a reduced s scale after the 2d week. Avoid activity in the direct sun.
RED	86-87.9	88-89.9	1 1/2 to 2	30/30	Curtail strenuous exercise for all personnel with less than 12 weeks of hot w weather training.
BLACK	88 & up	90 & up	>2	20/40	Suspend physical training and strenuous exercise. Essential operational commitments (e.g., guard duty) will not be suspended.

* Mission Oriented Protective Posture (MOPP) or body armor adds 10 degrees fahrenheit to the Botsball or WBGT index.

** An acclimatized soldier is one who has had progressive degrees of heat exposure and physical exertion for about 2 weeks. These work/rest periods do not apply to soldiers in MOPP gear or body armor.

c. The following actions, if emphasized by the commander, will reduce the risk of heat injury:

(1) Training. Give classes on heat injury recognition, treatment, and preventive measures annually to cadre and to soldiers in training. These classes will stress the causes of heat injury, the potentially serious result, first aid treatments, and the importance of water consumption in preventing heat injury. Briefings for commanders and supervisors will also include discussions on the following topics:

(a) Past experience with heat injury at the installation.

(b) The need for acclimatization and careful scheduling of

physical activities.

(c) The recognition of personnel who are at increased risk of heat injury (e.g., those with prior heat injury, current illness, recent immunization, obesity, and those who take medication).

(d) Use of the WBGT and WGT indexes.

(2) Use of the buddy system. Soldiers do not always recognize or react to their own early symptoms of heat injuries. They must be taught to observe their buddies for evidence of heat stress.

(3) Acclimatization to heat. Acclimatization is acquired by working in hot environments for gradually increasing periods of time on a daily basis over a period of about 2 weeks. Schedule training programs to provide for increasingly longer periods with alternating rest periods for personnel who are climatically unseasoned to heat. Commanders must take advantage of the cooler hours of the day when it is necessary to accomplish work during the acclimatization period.

(4) Water intake. Adequate water intake is the single most important factor in avoiding heat injury. An individual subjected to high heat stress may, through sweating, lose water in excess of one quart per hour. Water loss must be replaced, preferably by periodic intake of small amounts of water throughout the work period. Thirst is not an adequate stimulus for water intake. Therefore, commanders must require soldiers to drink water to prevent dehydration. Commanders must enforce an unlimited water drinking policy, particularly during times of increased physical stress.

(5) Salt replacement. In addition to water, sodium chloride is lost in sweating. While the diet ordinarily contains an adequate amount of salt, additional salt may be provided cautiously during the first few days of exposure to heat, especially in the case of unacclimatized individuals. Salt loss tends to be greater during acclimatization than after acclimatization. Using extra salt in cooking and on the plate will meet most requirements. Avoid excessive intake of salt, since it may cause increased thirst and incapacitating nausea.

(6) Scheduling work/training. Commanders must schedule activities to fit the climate, the physical condition of personnel, and the military situation. Schedule intense physical activity during the cooler hours of the day and avoid scheduling work in direct sunlight on hot days when possible. Commanders must closely supervise their soldiers to complete training requirements with minimum hazard.

(7) Physical conditioning. The general physical condition of the individual has a significant bearing on the reaction to heat stress. The risk

of heat injury is much higher in overweight, unfit persons than in those of normal weight. Commanders must exercise special care where such persons are exposed to high temperatures. Since one attack of either heat stroke or severe heat exhaustion may predispose to a second, commanders must identify individuals who have experienced previous heat injury and exercise caution in exposing them to subsequent heat stress.

(8) Clothing. Clothing reduces the exposure of the body surface to solar radiation; however, at the same time, it decreases the movement of air over the skin. To take full advantage of its benefits and minimize its disadvantages, clothing should be loose fitting, especially at the neck and wrists. Commanders may authorize exceptions to the prescribed wear of the Battle Dress Uniform (BDU) to protect troops and maintain efficiency. During heat condition "yellow," commanders will have soldiers unblouse trousers during strenuous physical activity or exposure to heat. Commanders will require soldiers to remove their jackets during strenuous physical activity or exposure to heat in heat categories "red" and "black." However, commanders must avoid exposing soldiers to intense solar radiation for extended periods of time (>1 hour).

d. Do not use water sprays to cool down soldiers in training (except as a first aid treatment for heat stroke casualties). This does not prevent heat injuries. The temporary cooling effect achieved through spraying may in fact increase core body temperature and intensify heat injuries.

7. Cold injury prevention.

a. Prior planning and adequate training are essential to minimize cold injury casualties. Reference 10d contains a detailed discussion on proper measures for preventing cold injuries. Commanders, cadre, and other responsible officers and NCOs must be familiar with environmental conditions (such as temperature, wind, humidity, and ground surface conditions) that influence the risk of cold injury. They should know how to use the wind chill chart in table 1 of reference 1Od. A pocket size wind chill card (GTA 8-5-40 (appendix C)) is available for use through TASC.

b. Commanders must establish appropriate guidelines on training/physical activity, uniform wear, and troop support requirements to conform with the precautions for each wind chill level listed below.

WIND CHILL (Degrees Fahrenheit)	PRECAUTIONS
30 and below	Alert personnel to the potential for cold injury.

WIND CHILL (Degrees Fahrenheit)	PRECAUTIONS
25 and below	Leaders inspect personnel for wear of cold weather clothing.

	Provide warm-up tents/areas and hot beverages.
0 and below	Leaders inspect personnel for cold injuries and emphasize that buddies must also check each other.
	Increase the frequency of rotating soldiers exposed to wind chill conditions to warming area.
-20 and below	Curtail all but mission essential operations where soldiers are exposed to wind chill conditions.

c. Effective cold injury prevention programs must include the following:

(1) Training. Give classes on cold injury recognition, first aid, and preventive measures annually to all cadre and soldiers in training.

(2) Use of the buddy system. Soldiers do not always recognize or react to their own early symptoms of cold injuries. They must be taught to observe their buddies for evidence of overexposure to cold.

(3) Clothing. The chain of command must ensure that soldiers are issued serviceable, properly fitting clothing and footgear for cold weather. Additionally, commanders must emphasize that preventing cold injuries depends on wearing clothing properly. Soldiers should be encouraged to wear as little as possible, consistent with the weather. (It is better for the body to be slightly cold and generating heat than excessively warm.) Clothing should be clean, dry, loose fitting, and worn in layers. Layering clothing provides layers of air to insulate the body and permits good circulation of the blood. Dirty clothes conduct heat more rapidly and afford less protection from the cold. Moisture causes clothing and footgear to lose their insulating qualities. Encourage soldiers to remove some layers when they are exposed to heat or performing any physical activity to prevent perspiration and subsequent chilling.

(4) Scheduling work/training. Commanders must tailor schedules to fit weather conditions by scheduling activities requiring exposure to cold as the wind chill factor increases and frequently providing warm-up breaks.

(5) Physical conditioning, The general physical condition of soldiers has a significant bearing on their susceptibility to cold injury.. Physical fatigue contributes to apathy, inactivity, personal neglect, and carelessness. These lead to loss of heat production and retention and increase the risk of cold injury. Soldiers with prior cold injuries have a higher than normal risk of subsequent cold injuries. Commanders must ensure soldiers maintain their

self-discipline in cold weather to protect themselves from cold injury, Additionally, commanders must identify soldiers with previous cold injuries and exercise caution in exposing them to hazardous wind chill conditions.

(6) Exercise. Commanders must encourage physical activity in cold weather, Activity of large muscle groups of the shoulders, trunk, and legs is required in order to generate and maintain body heat. When the situation prohibits such gross activities, frequent changes of positions; moving toes, feet, legs, fingers, arms, and hands; and, to a lesser extent, isometric contractions are less satisfactory alternatives. In such situations, some delay in heat loss can be accomplished by sitting or standing on insulating material rather than on cold or wet ground.

8. Evacuation. Commanders must establish a liberal policy of evacuation of injured personnel to the nearest medical treatment facility.

9. Reporting. In accordance with AR 40-400, commanders will use the Special Telegraphic Report RCS MED-16(R4) to report all heat and cold injuries requiring hospital admission or any significant clusters of heat or cold injuries that occur in one unit that do not require hospitalization. Commanders must furnish a copy of this report to Commander, TRADOC, ATTN: ATMD, Fort Monroe, VA 23651-5000.

10 . References.

a. Army Regulation 40-5, 1 Jun 85, Preventive Medicine.

b. Field Manual 21-10, 22 Dec 83, Field Hygiene and Sanitation.

c. Field Manual 21-11, 7 Oct 85, First Aid for Soldiers.

d. TB Med 81, 30 Sep 76, Cold Injury.

e. TB Med 507, 25 Jul 80, Occupational and Environmental Health: Prevention, Treatment, and Control of Heat Injury.

f. TRADOC Regulation 350-6, 13 Feb 87, Initial Entry Training Policies and Administration, 13 Feb 87.

APPENDIX A

SAMPLE HEAT INJURY PREVENTION CARD

HEAT CRAMPS **BASIC HEAT INJURY PREVENTION**

SYMPTOMS	FIRST AID
Muscle cramps of the abdomen, legs or arms.	1. Move the soldier to a shaded area and loosen clothing. 2. Dissolve ¼ teaspoon table salt in a (one quart) canteen of water. Have soldier slowly drink at least one canteen of this salt solution. If no salt is available, use plain water. DO NOT USE ADDITIONAL SALT.

HEAT EXHAUSTION

SYMPTOMS	FIRST AID
Profuse sweating with pale, moist and cool skin, headaches, weakness, loss of appetite, dizziness. May also have heat cramps, nausea, urge to defecate, chills, rapid breathing, tingling of the hands or feet and confusion.	1. Move soldier to a shaded area, loosen or remove clothing; elevate legs, pour on water and fan if it is very hot. 2. Dissolve ¼ teaspoon table salt in a (one quart) canteen of water. Have the soldier slowly drink at least one canteen of this salt solution. If no salt is available, use plain water. DO NOT USE ADDITIONAL SALT.

HEATSTROKE

SYMPTOMS	FIRST AID
Headache, dizziness, stomach pains, confusion, weakness, may Suddenly lose consciousness, and may have seizures; skin is hot and may be dry; pulse and respiration are rapid and weak. Heatstroke is a medical emergency.	1. Immerse in water or pour water on and fan. 2. Transport to the nearest medical treatment facility at once. 3. While awaiting or during transport move to a shaded area, remove clothing and boots, elevate legs; continue pouring on water and fanning; massage the skin. If conscious, have him drink the salt water as described under Heat Exhaustion. DO NOT USE ADDITIONAL SALT.

1. Consider water a tactical weapon. Reduce heat injury by forcing water consumption.

2. When possible, provide cooled water (50F to 60F) to enhance its taste and increase voluntary water consumption.

3. Drink one quart of water in the morning, at each meal, and before and during hard or strenuous work.

4. Take frequent drinks since they are more effective than drinking the same amount all at once. Larger soldiers need more water

5. The use of salt tablets for replacement of salt lost through sweating is not recommended. An adequate salt intake is best achieved by eating three salt-seasoned meals per day.

6. When possible, schedule heavy workloads for the cooler hours of the day such as early morning or late evening.

7. Give frequent rest periods. Lower the workrate and workloads as the heat condition increases.

8. When possible, workloads and/or duration of physical exertion should be less during the first days of exposure to heat: then they should be gradually increase to allow acclimatization.

APPENDIX B

SAMPLE COLD INJURY PREVENTION CARD

GTA 8-6-12
AUGUST 1985

ADVERSE EFFECTS OF COLD
CAUSE AND SYMPTOMS

FREEZING INJURY (FROSTBITE).
a. Cause: EXPOSURE TO BELOW FREEZING TEMPERATURES,

COMMONLY ASSOCIATED WITH DAMP CLOTHING OVER THE INVOLVED BODY PART.

b. Symptoms: Skin is waxy, white/gray and numb while frozen. Upon thawing, the signs vary with the degree of injury as follows:

1. Mild-Moderate: Redness, swelling, clear blisters, pain.
2. Severe: Blue-black discoloration, blood-filled blisters, early absence of pain.

NONFREEZING ("TRENCH FOOT," "IMMERSION FOOT").

a. Cause: PROLONGED EXPOSURE TO COLD (USUALLY 32o -50o F) AND WETNESS.

b. Symptoms: Redness, swelling, blistering, bleeding, numbness.

SEE REVERSE FOR PREVENTION AND FIRST AID

HEADQUARTERS, DEPARTMENT OF THE ARMY

PREVENTION

TO KEEP WARM REMEMBER THE WORD C-O-L-D

C – Cleanliness and Care – Feet, socks, and clothing are warmer when clean. Proper care of the feet is imperative.

O -- Overheating – Wearing too much clothing causes overheating, perspiration, dampness and coldness.

L -- Layers and Looseness – Clothing in loose layers assures air spaces which hold body heat. Adjust the number of layers to the temperature and activity. Loose-fitting clothing insures circulation and insulation.

D -- DAMPNESS – A wet garment is a cold garment. Wear the field jacket as a windbreaker and to repel water.

FIRST AID TREATMENT

Get off your feet, change to warm, dry clothing, and seek medical assistance. DO NOT RUB, AND DO NOT USE SNOW.

SEE REVERSE FOR CAUSE AND SYMPTOMS

DISTRIBUTION: US Army Training and Audiovisual Support Center (TASC).

APPENDIX C
SAMPLE WIND CHILL CARD

HOW TO USE THE WIND CHILL CHART

Find the windspeed in the left-hand column, then read across to the column under the actual temperature. This number is the equivalent temperature which would be acting on any exposed skin. For example, if the wind is

blowing at 20 mph (32 kph) and the actual temperature is 10° F (-12° C), the effect on bare skin would be the same as a temperature reading of -25° F (-32° C) under calm conditions. Any movement has the same cooling effect as the wind. Running, skiing, or riding in an open vehicle must be considered in using the wind chill chart.

* GPO : 1983 0 - 417-503

The proponent for this regulation is the Office of the Deputy Chief of Staff for Training. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications) through channels to Cdr, TRADOC, ATTN: ATTG-I, Fort Monroe, VA 23651-5000.

FOR THE COMMANDER:

OFFICIAL:

RAYMOND E. HADDOCK
Major General, GS
Chief of Staff

THEODORE W. HUMMEL
Colonel, GS
Deputy Chief of Staff for
Information Management

DISTRIBUTION:

S1 (except USACGSC; USATB; 7A CATC; USASMA); S2 (except AHS); RC (except USAR Affairs, Europe; USARCPAC; USAR Per Cen; Comdt, USAR Sch); TRADOC Instl: B

Copies furnished:
HQDA(NGB-DAP)
HQDA(DAMO-TRI)
HQDA(DAPC-EPK-ID)
Cdr, FORSCOM
Comdt, USAR Leadership Academies

Mission Risk Assessment Worksheet
EXAMPLE

1. Unit:	2. Prepared by: (Rank/Last name/Duty Position	3. DTG Prepared:
4. Mission/Task:		5. DTG Begin DTG End:
6. Leader Task (If applicable):	7. Individual Task (If applicable):	

8. Hazards	9. Initial Risk Level*	10. Controls	11. Residual Risk Level*	14. How to Implement	15. How to Supervise	16. Controls Effective ?
Soldier not familiar with task.		Prior task training on weapons and range operations. Safety briefing prior and at training site.		Sop's, Rehearsals, AR 385-63 USASC&FG 210-21	Commander, OIC/RSO	
Soldier may become disoriented to their sector of fire.		OIC/RSO will place each soldier on the firing line and ensure each soldier knows his or her sector of fire.		Sop's, Rehearsals, AR 385-63 USASC&FG 210-21	OIC/RSO	
Soldiers may loss their footing while moving on or off the firing.		Soldiers will rehearse movement on and off range, be briefed to move carefully, and be lead on and off range by the RSO. Leaders will recon range prior to occupying.		Sop's, Rehearsals, AR 385-63 USASC&FG 210-21	OIC RSO	
Weapons not being cleared as soldiers move off firing line		RSO will inspect all weapons prior to soldier moving off firing line.		Sop's Rehearsal USASC&FG 210-21	OIC RSO	
Clearing malfunctions and stoppages by soldiers		Soldier will perform immediate action to clear stoppage. RSO will be on site to handle major malfunctions.		Same as above	Same as above	
Removal of brass or live rounds from range by soldiers in training		All soldiers will be inspected prior to moving off range.		Same as above	Same as above	

12. Overall risk level after controls are implemented (Circle one or High Light)	13. Risk Decision Authority: (Rank/Last Name/Duty Position)	DTG and Signature
LOW **MODERATE** HIGH EXTREMELY HIGH		

Fort Gordon Range Operations
Unit OIC/RSO Checklist

RANGE SCHEDULING & PLANNING

❑ Contact your Bn S3 / training NCO and confirm: **(1)** Range location, **(2)** Weapon system, **(3)** Munitions type, **(4)** Firing hours, and **(5)** Range Contract (control) Number. **RFMSS Scheduling Office and info: 791-5005/5008**

❑ Obtain and review **FM's** and **TM's** on weapon systems to be supervised.

❑ Arrange for Combat Lifesaver (.50 cal and below), emergency vehicle w/ litter.

❑ **All Ranges require one certified (E7 or above for OIC duties), one certified E6 or above for RSO duties. Non-certified (E4 CPL or above) Line Safety NCOs.**

❑ Review **AR 385-63, Chapter 4**, Range Safety Duties and responsibilities for OIC / RSO / NCOIC, FG Regulation 210-21 section 2.

❑ Ensure that ammunition NCO orders and draws correct types of ammunition for your range. **Ensure that RFMSS reflects correct ammo type.**

RANGE RECON & CHECK-IN – AT LEAST ONE DAY PRIOR TO TRAINING EVENT

❑ Recons will be coordinated at least 24 hours prior to the range.

❑ OIC, RSO, and Medic will **jointly** check-in with Range Control on the day of range.

❑ Read and research **(1)** Local range SOP.

❑ Do the following: **(1)** Conduct recon of range, training area and billeting facilities, **(2)** Request fire hazard conditions, **(3)** Confirm tracer usage, and authority to use pyrotechnics [CS gas] with Range Control, (4) Sign for Fire barrels.

❑ Sign for range, training area, and facilities. Make final coordination for any special targetry or other special needs.

❑ **Special Targetry Scenarios** require check-in and coordination at least 45 **days** in advance. Will target carpentry work be required**?**

BEFORE DEPARTING FOR RANGE

❑ Test your SINGARS communications system (calibrated - in the clear) one-day before you go to the range.

❑ Ensure that your ammunition-laden vehicles are properly placard.

❑ See **AR 385-63** - **TM 9-1300-206** explosives safety criteria for training operations on firing ranges.

❑ Assemble and test space heaters at unit rear. Follow winterized fuel requirements. GP medium tents can be placed on ranges.

❑ Obtain two **1-A:10B:C** (dry chemical) fire extinguishers, water cans and shovels for fire fighting.

ON DAY OF RANGE *** If you need to cancel your range please call Range Scheduling Office 791-5005/5008**

❑ On scheduled day the OIC, RSO, and Medic, must sign in at Range Control before occupation of the range.

❑ Establish communications with Range Control:

42.000 in the clear

❑ Brief soldiers on range safety procedures, and (Red Box) ammunition amnesty program. Brief road guards.

❑ When you are ready to fire call Range Control and ask for a **"HOT" time.** Ensure red range flag(s) are hoisted and down range [SDZ] is clear before firing.

DURING FIRING - REQUIRED DA FORM 1594 ENTRIES

❑Monitor the radio at all times, make hourly radio checks with Range Control, RTO.

❑ Immediately Notify , RTO of any unusual incidents such as: **(1)** Civilian encroachment on range, **(2)** Accidents, **(3)** Injuries, **(4)** Malfunctioning weapons & munitions, **(5)** Rounds off the range, and **(6)** UXO **(7)** RSO monitors range safety, **(8)** Make DA Form 1594 entries.

COMPLETION OF FIRING

❑ Call RTO for **"COLD"** time. Request range clearance instructions. Take down red range flag(s)

❑ Provide this information to RTO: **(1)** number and types of rounds fired, **(2)** Number of Duds or misfires, and **(3)** Number of personnel trained. Don't depart range until properly cleared by Range Control supervisory personnel. Please provide written comments on back of RUDF.

❑ Police all portions of the firing line, gun positions, battle positions, and concurrent training areas.

❑ Please provide Range Control with ***written*** [positive or negative] comments. Let us know about unsafe conditions or damaged facilities.

FORT GORDON RANGE OPERATIONS TELEPHONE NUMBERS

RANGE MANAGEMENT SECTION
BLDG. #482 RANGE ROAD

Range Operations Manager, MSG Ramtahal	791-5005

RANGE CONTROL CENTER
BLDG # 482 RANGE ROAD, FORT GORDON

Range Operations/ Scheduling, SSG Hill	791-9936
Installation Ammo Manager SGT Vasquez	791-9937
Integrated Training Area Management (ITAM), Mr Perkinson	791-5008
Maintenance NCOIC, SSG Pagan	791-9934

RANGE UTILIZATION DATA FORM (RUDF)

. Fort Gordon Range Control

Range 1 - Range 2 - Range 4 - **Range 5** - Range 6

Range 7 - **Range 8** - Range 9 - **Range 10** - **Range 11**

Range 14 - **Range 15** - **Range 16**

Demo Pit

1 Range Date(s):_____Thru:_____
month / day / 20__ month / day / 20__

Hours scheduled From: 0730 To:1630 Extension granted **Yes** **No**

Unit:_____

Telephone:_____ **# Vehicles: ____ # Personnel:_____**

2 I have read and understand the Range Control SOP, and Range Safety requirements pertaining to this range.

OIC: _____ _____ _____
last name / first/ initial / rank Last 4 signature

OIC: Has a signed Risk Assessment in hand: Yes___ _____
Signature

RSO: _____ _____ _____
last name / first / initial / rank Last 4 signature

3 **Circle authorized weapon systems that you will be firing:**

Small Arms Weapons:
9MM - M9 - M16/M4 - M24 - M60 - M240B/G - M249 SAW
BFV (7.62 Coax)- 25mm – M2 50cal
List other weapons here:

Subcaliber, Inert, TPT :
MARK-19 (TPT) - M203 (TPT) - AT-4 (9mm subcal) - Mortars (subcal)
TOW (inert)

High explosives: (Check with Range Control officer for current restrictions)
MARK-19 (HE) - M18 Claymore (HE) - Hand grenades (HE) - Tow (HE)
AT-4 (HE) - Artillery (HE) - Mortars (HE)
Demolitions: Restrited to no more than (one) 25 lb. charge at a time.

4 Provide special scenario information:

Special fire & maneuver (M31A1 targetry) YES NO Approved by: _____
Moving targets YES NO Type:_____ Approved by: _____
Pyrotechnics / Demo YES NO :_____ Approved by: _____
Tracer Ammunition Approved YES NO Approved by: _____

5 Pre-firing Checklist :

☐Commo check (42:000) with RC, RTO ☐Road guards posted ☐Down range cleared
☐TMs & FMs on range ☐Two [1-A:10B:C] fire extinquishers ☐Hearing protection ☐RSO safety briefing provided for soldiers, Line safety NCO's, and Ammo NCO.
☐Targets aligned according to SOP diagram ☐ Combat lifesaver /MEDIC with up-to-date aid bad, litter, and emergency vehicle on site
Hot time: _____

6 Post-firing Checklist ?

Type and # of rounds fired: 1) _____ 2) _____ 3) _____
No. # of Personnel fired: _____

Were there any misfires on the range YES NO
Were there any DUDS on the Range? Was EOD called? _____
☐Target stands removed ☐Firing points raked ☐Range policed ☐Latrine cleaned
☐Range flag down ☐End commo with RC, RTO ☐Cleared by RC, "Cold" time:_____

After Action Comments

6 Please circle subject matter that you are concerned about. Provide a written commentary of the problem, situation, and incident:
Scheduling - Condition of range -

Comments:_____
_____
_____
Attach written commentary of problem areas:

7 Were there any range safety incidents?: YES NO

Accident - Injury – Range Cadre issues - Weapons safety - Ammunition malfunctions - Targetry malfunctions - Firing positions - Vehicle / driver safety - Brush fires - EOD incidents

Other situations or occurrences:_____
Description:_____
_____
_____